TAPC F1340

60/62/65/70

Service
Service
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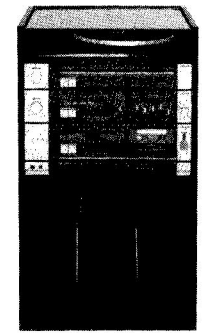
For Servicing Information concerning the cassette mechanism refer to Service Manuals: "Recorder Tape Deck RT75 and RT1".

For Servicing Information concerning the record player refer to Service Manual F7046/00A.



36 099 A11

Service Manual

(GB) TECHNICAL DATA	(NL) SPECIFICATIES	(F) SPECIFICATIONS	(D) TECHNISCHE DATEN	(I) DATI TECNICI	
Power supply voltages	Voedingsspanningen	Alimentation	Versorgungsspannungen	Tensioni d'alimentazione	: 110, 127, 220, 240 V 50/60 Hz ~
Power consumption	Opgenomen vermogen	Puissance absorbée	Leistungsaufnahme	Potenza assorbita	: ⩽ 60 W
Dimensions	Afmetingen	Dimensions	Abmessungen	Dimensioni	: 900 x 450 x 350 mm approx.
Wave ranges	Golfbereiken	Gammes d'ondes	Wellenbereiche:	Gamme d'onda:	
FM	FM	FM	UKW	FM	: 87.5 - 108 MHz (2000-1177 m)
MW	MW	PO	MW	OM	: 520 - 1605 kHz (577-187 m)
LW	LW	GO	LW	OL	: 150 - 255 kHz
Sensitivity	Gevoeligheid:	Sensibilité	Empfindlichkeit:	Sensibilità:	
△f 75 kHz FM	△f 75 kHz FM	△f 75 kHz FM	△f 75 kHz FM	△f 75 kHz FM	: (1.6 μV mono, 26 dB S/N) (50 μV stereo, 46 dB S/N:)
600 kHz AM	600 kHz AM	600 kHz AM	600 kHz AM	600 kHz AM	: (100 μV for 26 dB S/N:)
Aerial input	Antenne ingang	Impédance d'antenne	Antennen-Impedanz	Ingresso antenna	: 75 Ω and 300 Ω
Output power (at 4 Ω load)	Uitgangsvermogen (4 Ω)	Puissance de sortie (4 Ω)	Ausgangsleistung (4 Ω)	Potenza d'uscita (con carico 4 Ω)	: 2 x 8 W (1 kHz) D⩽10%
Output impedance	Uitgangsimpedantie	Impédance de sortie	Ausgangsimpedanz	Impedenza d'uscita	: 4 Ω
Output impedance of headphones	Uitgangsimpedantie hoofdtelefoon	Impédance de sortie écouteurs	Kopfhörer-Ausgangs-impedanz	Impedenza d'uscita per cuffia	: 4 - 1000 Ω
Cassette deck	**Recorder**	**Magnétophone**	**Recorder**	**Piastra registratore**	
Speed	Snelheid	Vitesse	Geschwindigkeit	Velocità	: 4.76 cm/sec ±2%
Wow and flutter	Wow en flutter	Pleurage et scintillement	Gleichlaufschwankungen	Wow e flutter	: ⩽ 0.2%
Record player	**Platenspeler**	**Tourne-disque**	**Plattenspieler**	**Giradischi**	
Speed	Snelheid	Vitesse	Geschwindigkeit	Velocità	: 33⅓-45 r.p.m.
Wow and flutter	Wow en flutter	Pleurage et scintillement	Gleichlaufschwankungen	Wow e flutter	: ⩽ 0.25%
Pick up cartridge	Element	Cartouche pick-up	Tonabnehmersystem	Testina	: GP215

Documentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviço

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

Subject to modification

GB NL 4822 725 20486 F D I

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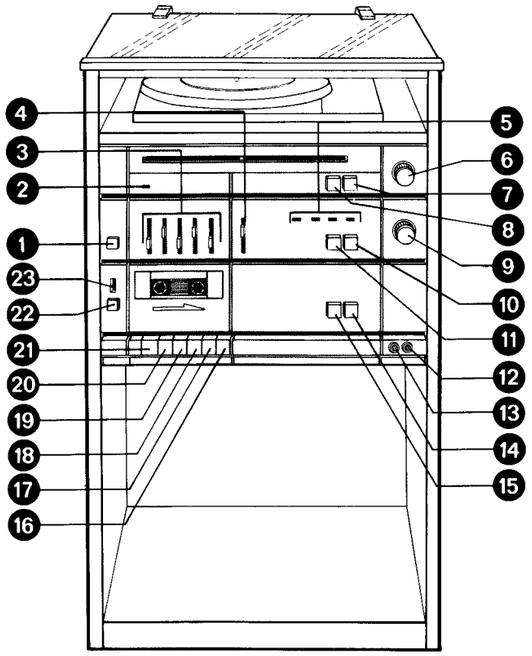
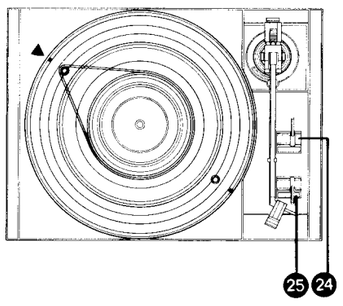


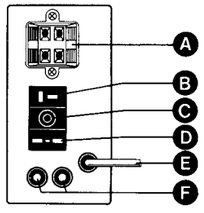
37 268 A12

1 On/off switch
2 FM stereo indicator
3 Equalizer controls
4 Balance control
5 Function display: "CASS", "PHONO", "TUNER", "C-DISC/TV"
6 Tuning control
7 AM/FM selector switch
8 LM/MW selector switch
9 Volume control
10 Mono/RIF switch
11 Aux. source selector switch "C-DISC/TV"
12 Output jack for stereo headphone
13 Input jack for mono microphone
14 Noise reduction switch
15 Tape selector switch
16 Pause button
17 Play/start button
18 Stop/eject button
19 Wind button, "cue"
20 Rewind button, "review"
21 Record button
22 Zero reset button
23 Counter



37 267 A12

24 Cue lever
25 Speed selector switch



37 269 A12

A Terminals for loudspeakers
B Sockets for AM aerial and earth
C Sockets for FM aerial, 75 Ω
D Socket for FM aerial, 300 Ω
E Mains lead
F Input sockets for aux. source "C-DISC/TV"

Diodes	
BAX14	4822 130 34193
BA220	4822 130 34221
BA317	4822 130 30847
BB119	4822 130 31273
BZX79-C8V2	4822 130 34382
BZX79-C6V2	4822 130 34167
Diode 1N4148	4822 130 30621
LED red SLP251/B50C	4822 130 32057
LED red SLP251/B50C	4822 130 32057
SLP151B-50C red	4822 130 32323
1N4148	4822 130 30621
2KBP02-7001	4822 130 50363

Transistors	
BC548	4822 130 40938
BC548B	4822 130 40937
BC549B	4822 130 40936
BC558	4822 130 40941
BC558B	4822 130 44197
BF241	4822 130 40898
BF494B	4822 130 41376
2SK241GR	4822 130 42217

Integrated-circuits	
LM342P15	4822 209 80388
NJM 4558DD	4822 209 81054
TEA5570	4822 209 81563
UPC 1238V	4822 209 82105
UPC1197C	4822 209 81544

Resistors		
3158	Potm. trim. 4k7	4822 100 10036
3315	Potm. slide	4822 105 10578
3325	Potm. slide	4822 105 10578
3345	Potm. slide	4822 105 10578
3345	Potm. slide	4822 105 10578
3355	Potm. slide	4822 105 10578
3369	Potm. volume	4822 101 20749
3370	Potm. balance	4822 105 10579
3381	Fuse res. 1E	4822 111 30483
3382	Fuse res. 1E	4822 111 30483
3401	Fuse res. 2E2	4822 111 30492
3404	Fuse res. 1E	4822 111 30483
3769	Potm. trim. 220K	4822 100 10088
3770	Potm. trim. 220K	4822 100 10088

Capacitors		
2117	Plate cap. 22 pF N470	4822 122 32128
2120	Plate cap. 27 pF	4822 122 31234
2121	Cap. trimmer	4822 125 50172
2136	Micropoco 365 pF	4822 121 50803
2138	Plate cap. 82 pF N1500	4822 122 31309
2139	Micropoco 324 pF	4822 121 50542
2140	Plate cap. 18 pF	5322 122 34146
2145	Plate cap. 180 pF	4822 122 32106
2146	Plate cap. 180 pF	4822 122 32106
2147	Plate cap. 180 pF	4822 122 32106
2166	Plate cap. 82 pF	4822 122 31309
2167	Plate cap. 180 pF	4822 122 32106
2168	Plate cap. 82 pF	4822 122 31309
2341	Plate cap. 100 pF	4822 122 31081
2342	Plate cap. 100 pF	4822 122 31081
2355	Plate cap. 100 pF	4822 122 31081
2765	Plate cap. 180 pF	4822 122 32106
2766	Plate cap. 180 pF	4822 122 32106

Coils		
5101	Aerial trafo	4822 148 80183
5102	Aerial trafo sym	4822 157 51233
5103	Ferroceptor	4822 158 60515
5104	Coil	4822 156 10641
5105	RF coil	4822 157 51693
5106	Osc. coil	4822 157 51618
5107	Inductor 0.47 μH	4822 157 50967
5108	IF coil 10.7 MHz	4822 153 50206
5109	Aerial trafo LW	4822 156 30564
5110	Cer. res. 10.7 MHz	4822 242 70249
5111	FM dert, coil	4822 157 51615
5112	IF filter 450 kHz	4822 157 51617
5113	Osc. coil AM	4822 157 51616
5114	Det. coil FM 10.7 MHz	4822 153 50208
5115	Cer. res. 10.7 MHz	4822 242 70249
5116	IF coil AM 460 kHz	4822 157 51708
5117	Coil 22 mH	4822 157 51842
5118	Inductor 100 μH	4822 157 50964
5751	Osc. coil	4822 156 20946

Miscellaneous		
1301	Fuse 2.5 AF	4822 253 20095
1751	Thick film unit	4822 218 10158

(GB)

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

(NL)

Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

(F)

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

(D)

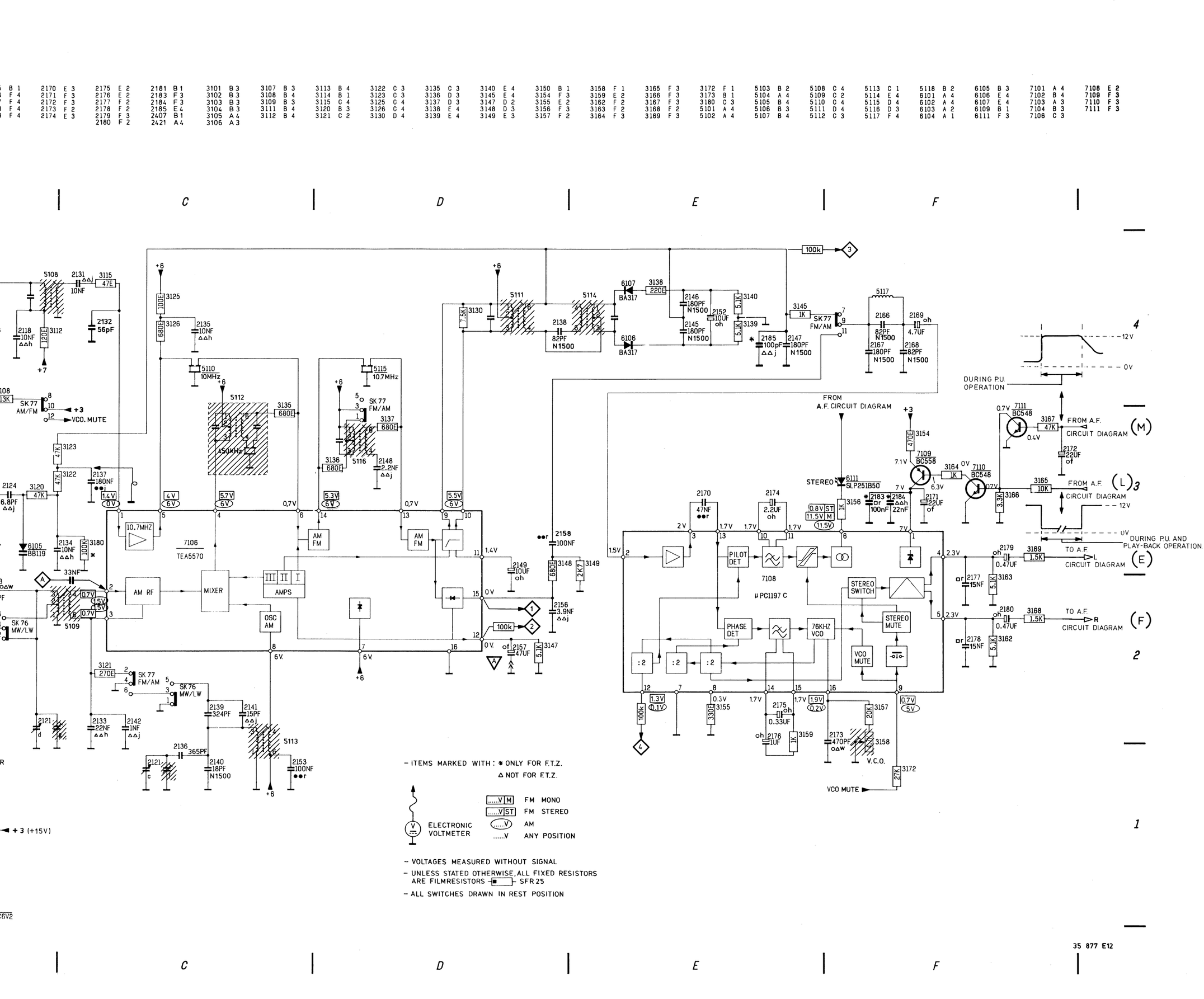
Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

(I)

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambiago identici a quelli specificati.

| | | |

B 1	2170	E 3	2175	E 2	2181	B 1	3101	B 3	3107	B 3	3113	B 4	3122	C 3	3135	C 3	3140	E 4	3150	B 1	3158	F 1	3165	F 3	3172	F 1	5103	B 2	5108	C 4	5113	C 1	5118	B 2	6105	B 3	7101	A 4	7108	E 2
F 4	2171	F 3	2176	E 2	2183	F 3	3102	B 3	3108	B 4	3114	B 1	3123	C 3	3136	D 3	3145	E 4	3154	F 3	3159	E 2	3166	F 3	3173	B 1	5104	A 4	5109	C 2	5114	E 4	6101	A 4	6106	E 4	7102	B 4	7109	F 3
F 4	2172	F 3	2177	F 2	2184	F 3	3103	B 3	3109	B 3	3115	C 4	3125	C 4	3137	D 3	3147	D 2	3155	E 2	3162	F 2	3167	F 3	3180	C 3	5105	B 4	5110	C 4	5115	D 4	6102	A 4	6107	E 4	7103	A 3	7110	F 3
F 4	2173	F 2	2178	F 2	2185	E 4	3104	B 3	3111	B 4	3120	B 3	3126	C 4	3138	E 4	3148	D 3	3156	F 3	3163	F 2	3168	F 2	5101	A 4	5106	B 3	5111	D 4	5116	D 4	6103	A 2	6109	B 1	7104	B 3	7111	F 3
F 4	2174	E 3	2179	F 3	2407	B 1	3105	A 4	3112	B 4	3121	C 2	3130	D 4	3139	E 4	3149	E 3	3157	F 2	3164	F 3	3169	F 3	5102	A 4	5107	B 4	5112	C 3	5117	F 4	6104	A 1	6111	F 3	7106	C 3		
			2180	F 2	2421	A 4	3106	A 3																																



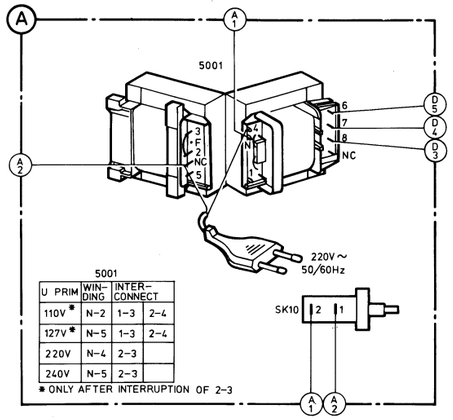
- ITEMS MARKED WITH : * ONLY FOR F.T.Z.
  Δ NOT FOR F.T.Z.

ELECTRONIC VOLTMETER

.....V M FM MONO
.....V ST FM STEREO
.....V AM
.....V ANY POSITION

- VOLTAGES MEASURED WITHOUT SIGNAL
- UNLESS STATED OTHERWISE, ALL FIXED RESISTORS ARE FILMRESISTORS ⊣■⊢ SFR 25
- ALL SWITCHES DRAWN IN REST POSITION

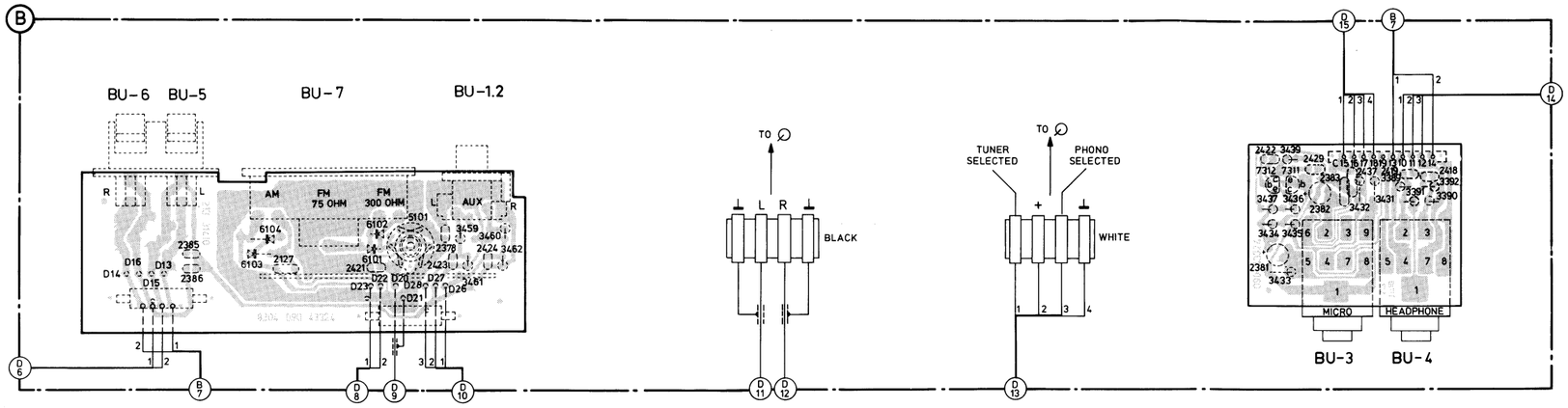
35 877 E12

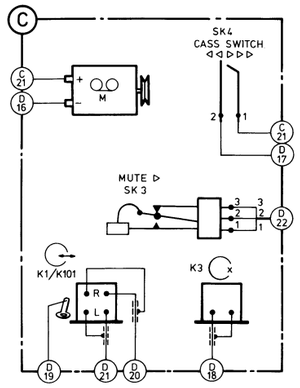


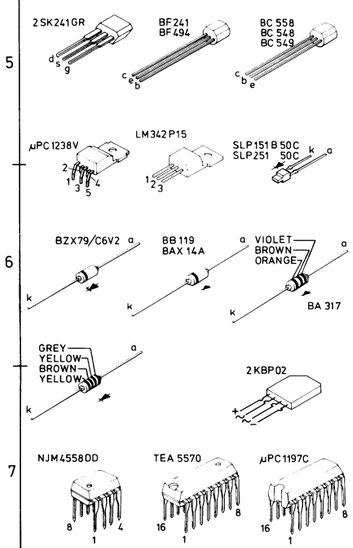
5001

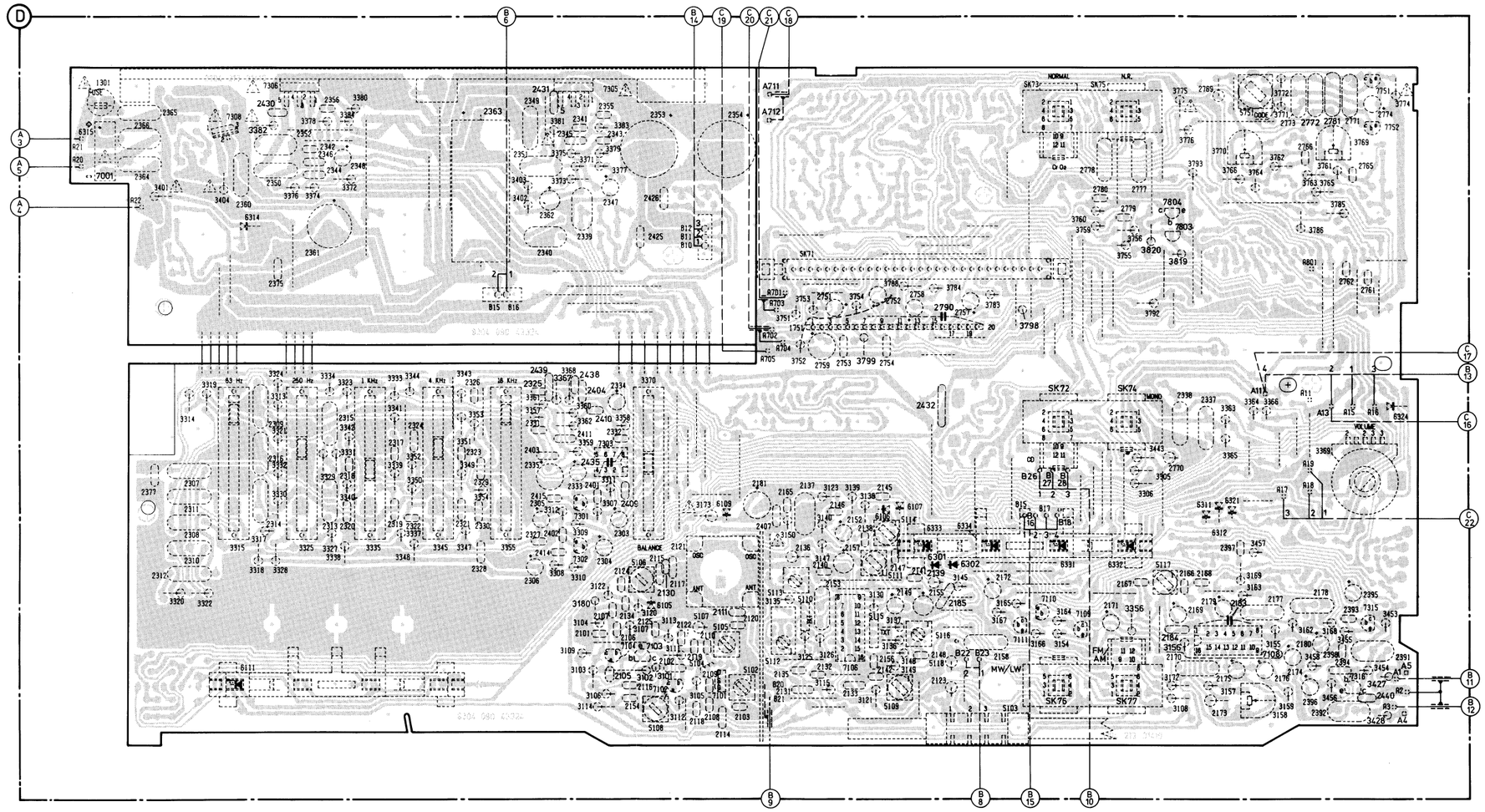
U PRIM	WIN-DING	INTER-CONNECT	
110V *	N-2	1-3	2-4
127V *	N-5	1-3	2-4
220V	N-4	2-3	
240V	N-5	2-3	

* ONLY AFTER INTERRUPTION OF 2-3









37 213 E12

1301	C03	2337	I05	3111	F06	3370	F05	6109	G06
1751	G05	2338	I05	3112	F07	3371	F04	6301	H06
2101	F06	2339	F04	3113	F06	3372	D04	6302	H06
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2107	F07	2344	D04	3122	F06	3377	F04	6321	J05
2108	G07	2345	F03	3123	G06	3378	D03	6324	J05
2109	G07	2346	D04	3125	G06	3379	F04	6331	I06
2110	F06	2347	F04	3126	G06	3380	D03	6332	I06
2111	G06	2348	D04	3130	G06	3381	F03	6333	H06
2114	G07	2349	E03	3135	G06	3382	D03	6334	H06
2115	F06	2350	D04	3136	H06	3383	F03	7101	G07
2116	F07	2351	E04	3137	H06	3384	D03	7103	F06
2117	F06	2352	D03	3138	G06	3389	J01	7104	F06
2118	F07	2353	F03	3139	G06	3390	J01	7106	G06
2119	F07	2354	G03	3140	G06	3391	J01	7108	J05
2120	G06	2355	F03	3145	H06	3392	J01	7109	I06
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2125	F06	2363	E03	3154	I06	3427	J07	7302	F06
2130	F06	2364	C04	3155	J05	3428	J07	7303	F05
2132	G07	2365	C03	3156	I06	3431	J01	7305	F03
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2169	I06	2414	F06	3317	D06	3761	J04		
2170	I06	2415	F06	3318	D06	3762	J04		
2171	I06	2418	J01	3319	D05	3763	J04		
2172	H06	2419	J01	3321	D05	3764	J04		
2173	I07	2421	E02	3322	D06	3765	J04		
2174	J07	2422	J01	3323	D05	3766	J04		
2175	J07	2423	E02	3324	D05	3769	J03		
2176	J07	2424	F02	3325	D06	3770	J04		
2177	J05	2425	F04	3327	D06	3771	J03		
2178	J05	2426	F04	3328	D06	3772	J03		
2179	I06	2429	J01	3329	D05	3775	I03		
2180	J05	2430	D03	3330	D06	3776	I03		
2181	G06	2431	F03	3331	D05	3780	I04		
2183	J05	2432	H05	3332	D05	3783	H04		
2184	I06	2435	F05	3333	E05	3784	H04		
2185	H06	2437	J01	3334	D05	3785	J04		
2303	F06	2438	F05	3335	D06	3786	J04		
2304	F06	2440	J07	3337	E06	3788	H04		
2305	F06	2726	J04	3338	D06	3792	I04		
2306	E06	2751	G04	3339	E05	3793	I04		
2307	C05	2752	G04	3340	D06	3798	H05		
2308	C06	2753	G05	3341	E05	3799	G05		
2309	D05	2757	H04	3342	D05	3819	I04		
2310	C06	2758	H04	3343	E05	3820	I04		
2311	C06	2759	G05	3344	E05	5101	E02		
2312	C06	2761	J04	3345	E06	5102	G07		
2313	D06	2765	J04	3347	E06	5104	F07		
2314	D06	2766	J04	3348	E06	5105	G06		
2315	D05	2769	I03	3349	E05	5106	F06		
2316	D05	2770	I05	3350	E06	5107	F06		
2317	E05	2771	J03	3351	E05	5108	F07		
2318	D05	2772	J03	3352	E05	5109	H07		
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2328	E06	3102	F07	3362	F05	5751	J03		
2329	E05	3103	F07	3363	J05	6101	E02		
2330	E06	3104	F06	3364	J05	6102	E02		
2331	E05	3105	F07	3365	J05	6103	D02		
2332	F05	3106	F07	3366	J05	6104	D02		
2333	F06	3107	F06	3367	F05	6105	F06		
2334	F05	3108	I07	3368	F05	6106	H06		
2335	E05	3109	F06	3369	J05	6107	H06		

RF + IF PART

		FM	AM
7101	d	4.8 V	
	s	0 V	
	g	0 V	
7102	e	1.0 V	0 V
	b	1.8 V	0 V
	c	5.6 V	6 V
7103	e	0 V	
	b	0.7 V	
	c	2.7 V	
7104	e	0.6 V	0 V
	b	1.3 V	0 V
	c	3.8 V	6 V
7106	1	1.4 V	0.0 V
	2	0.7 V	1.5 V
	3	0.7 V	1.5 V
	4	5.7 V	6.0 V
	5	4.0 V	6.0 V
	6	0.7 V	0.7 V
	7	6.0 V	6.0 V
	8	6.0 V	6.0 V
	9	5.5 V	6.0 V
	10	5.5 V	6.0 V
	11	1.4 V	1.4 V
	12	0.0 V	0.0 V
	13	0.7 V	0.7 V
	14	5.3 V	6.0 V
	15	0.0 V	0.1 V
	16	0.0 V	0.0 V

AF PART

7301	e	0.7 V
	b	1.4 V
	c	11.0 V
7302	e	0.7 V
	b	1.4 V
	c	11.0 V
7303	1	7.7 V
	2	7.7 V
	3	7.7 V
	4	0.0 V
	5	7.7 V
	6	7.7 V
	7	7.7 V
	8	15.0 V
7305	1	14.9 V
	2	15.1 V
	3	0.0 V
	4	15.1 V
	5	30 V
7306	1	14.9 V
	2	15.1 V
	3	0.0 V
	4	15.1 V
	5	30 V
7308	1	30 V
	2	0.0 V
	3	15 V
7311	e	0.2 V
	b	0.8 V
	c	9.4 V
7312	e	10 V
	b	9.4 V
	c	0.2 V
7315	e	7.6 V
	b	7.2 V
	c	15.0 V

		FM	AM
7108	1	7.0 V	7.0 V
	2	1.5 V	1.5 V
	3	2.0 V	2.0 V
	4	2.3 V	2.3 V
	5	2.3 V	2.3 V
	6	11.5 V	11.5 V
	7	0.0 V	0.0 V
	8	0.3 V	0.3 V
	9	0.7 V	5.0 V
	10	1.7 V	1.7 V
	11	1.7 V	1.7 V
	12	1.3 V	0.1 V
	13	1.7 V	1.7 V
	14	1.7 V	1.7 V
	15	1.7 V	1.7 V
	16	1.9 V	0.2 V
7109	e	7.1 V	7.1 V
	b	6.3 V	6.3 V
	c	7.0 V	7.0 V
7110	e	0.0 V	0.0 V
	b	0.7 V	0.7 V
	c	0.0 V	0.0 V
7111	e	0.0 V	0.0 V
	b	0.4 V	0.4 V
	c	0.7 V	0.7 V

REC PART

		PLAY	REC
7751	e	0.2 V	14.2 V
	b	0.0 V	13.9 V
	c	0.0 V	8.0 V
7752	e	0.2 V	14.2 V
	b	0.0 V	13.9 V
	c	0.0 V	8.0 V
1751	1	1.4 V	1.4 V
	2	0.0 V	0.0 V
	3	0.0 V	0.0 V
	4	0.6 V	0.6 V
	5	0.0 V	0.0 V
	6	0.0 V	0.0 V
	7	0.0 V	0.0 V
	8	0.0 V	0.0 V
	9	0.6 V	0.6 V
	10	0.0 V	0.0 V
	11	0.0 V	0.0 V
	12	0.0 V	0.0 V
	13	4.8 V	4.8 V
	14	0.0 V	0.0 V
	15	0.1 V	0.7 V
	16	0.0 V	0.0 V
	17	4.8 V	4.8 V
	18	0.0 V	0.0 V
	19	≈	≈
	20	14.5 V	14.5 V

AF CIRCUIT DIAGRAM

(A) TO REC L CIRCUIT DIAGRAM
(C) FROM PLAYER CIRCUIT DIAGRAM
(E) FROM R.F. CIRCUIT DIAGRAM
(G) FROM REC CIRCUIT DIAGRAM
L
SK 72 C-DISC/T.V.
SK 74 mono
C-DISC T.V. BU1
1kHz
BU.3
SK4 CASS. REC.
SLP 251 B50C C-DISC/T.V.
SLP 251 B50C PU.
SLP 251 B50C TUNER
SLP 251 B50C CASS. REC.
SK72 C-DISC/T.V.
NJM 4558 DD
μPC 1238 V
CURRENT MIRROR
LEFT BU.5
RIGHT BU.6
(B) TO REC R CIRCUIT DIAGRAM
(D) FROM PLAYER CIRCUIT DIAGRAM
(F) FROM R.F CIRCUIT DIAGRAM
(H) FROM REC CIRCUIT DIAGRAM
R
PHONO SELECTED
TUNER SELECTED
TO RECORD PLAYER
TO R.F CIRCUIT DIAGRAM (M)
TO REC CIRCUIT DIAGRAM MUTE
TO R.F CIRCUIT DIAGRAM SUPPLY STEREO DECODER CIRCUIT (L)
REC/P.B
CASS.REC
(K)
(L)
5001
ON/OFF SK1
220V~ 50-60Hz
ELECTRONIC VOLTMETER
...V AC
...V DC

5001		
V	WINDING	INTERCONNECT
110 V	N - 4	1 - 3 and 2 - 4 *
127 V	N - 5	1 - 3 and 2 - 4 *
220V	N - 4	2 - 3
240V	N - 5	2 - 3

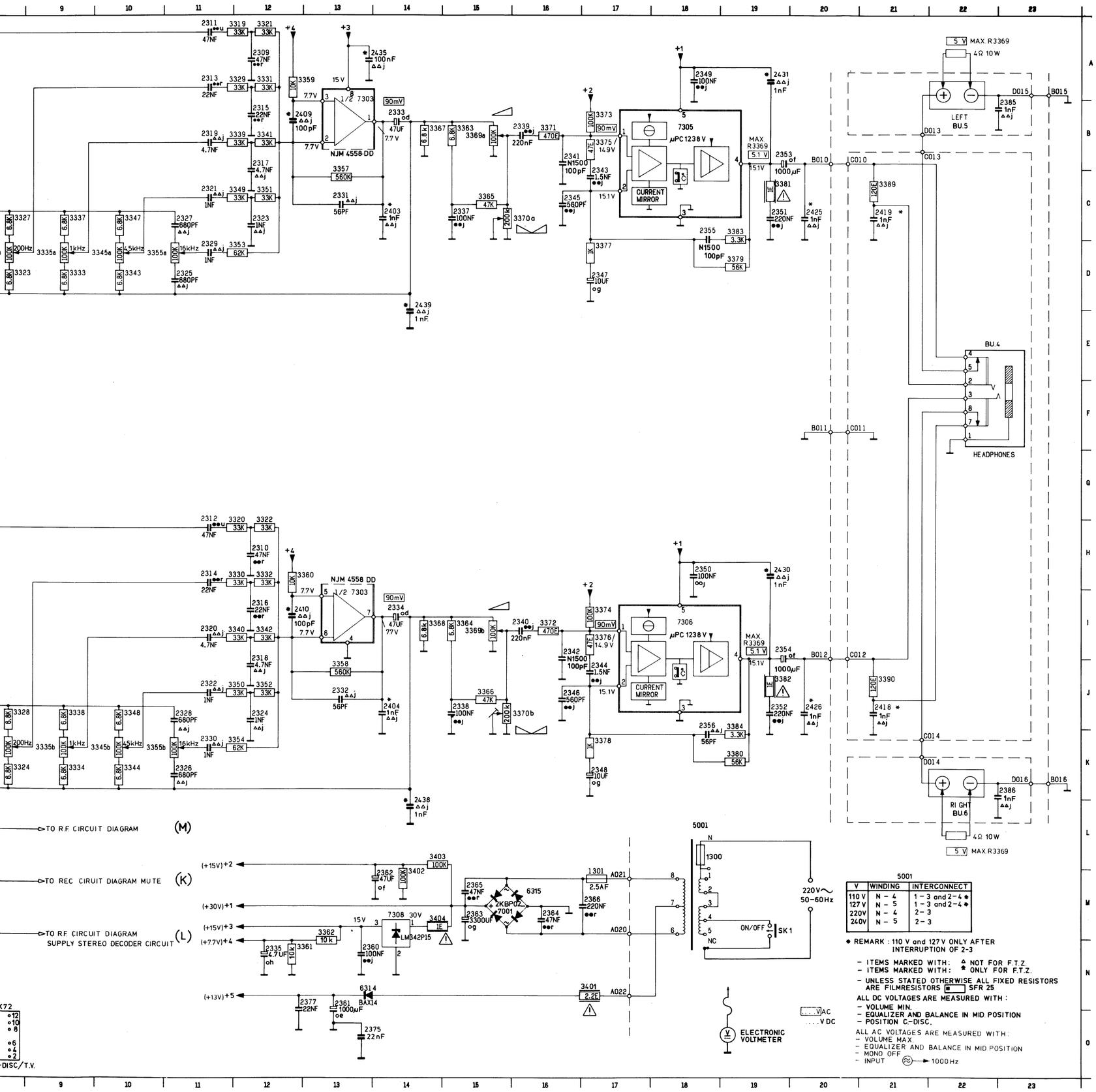
* REMARK : 110 V and 127 V ONLY AFTE
INTERRUPTION OF 2-3

- ITEMS MARKED WITH: △ NOT F
- ITEMS MARKED WITH: * ONLY
- UNLESS STATED OTHERWISE ALL
ARE FILMRESISTORS ■ SFR 25

ALL DC VOLTAGES ARE MEASURED WI
- VOLUME MIN.
- EQUALIZER AND BALANCE IN MID P
- POSITION C-DISC.

ALL AC VOLTAGES ARE MEASURED W
- VOLUME MAX.
- EQUALIZER AND BALANCE IN MID F
- MONO OFF
- INPUT ~ 1000 Hz

CS 99 822



5001		
V	WINDING	INTERCONNECT
110 V	N - 4	1 - 3 and 2 - 4 *
127 V	N - 5	1 - 3 and 2 - 4 *
220V	N - 4	2 - 3
240V	N - 5	2 - 3

* REMARK : 110 V and 127 V ONLY AFTER INTERRUPTION OF 2-3

- ITEMS MARKED WITH: △ NOT FOR F.T.Z.
- ITEMS MARKED WITH: * ONLY FOR F.T.Z.
- UNLESS STATED OTHERWISE ALL FIXED RESISTORS ARE FILMRESISTORS ▭ SFR 25

ALL DC VOLTAGES ARE MEASURED WITH :
- VOLUME MIN.
- EQUALIZER AND BALANCE IN MID POSITION
- POSITION C-DISC.

ALL A.C. VOLTAGES ARE MEASURED WITH :
- VOLUME MAX.
- EQUALIZER AND BALANCE IN MID POSITION
- MONO OFF
- INPUT ~ → 1000 Hz

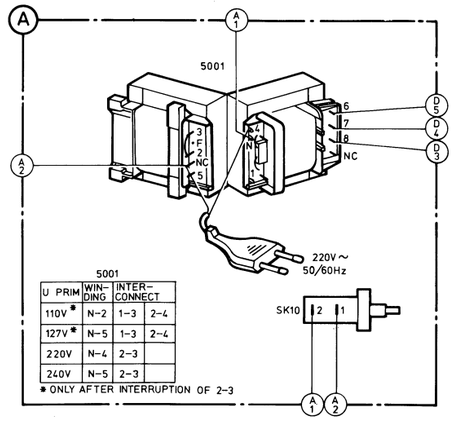
1301 M17
2303 C 6
2304 J 6
2305 C ?
2306 J ?
2307 D ?
2308 K ?
2309 A12
2310 H12
2311 A11
2312 G11
2313 A11
2314 H11
2315 B12
2316 I12
2317 B12
2318 I12
2319 B11
2320 I11
2321 C11
2322 J11
2323 C12
2324 J12
2325 D11
2326 K11
2327 C11
2328 J11
2329 D11
2330 K11
2331 C13
2332 J13
2333 B14
2334 I14
2335 N12
2337 C15
2338 J15
2339 B16
2340 I16
2341 B16
2342 I16
2343 C17
2344 J17
2345 C16
2346 J16
2347 D17
2348 K17
2349 A18
2350 H18
2351 C19

2352 J19
2353 B19
2354 I19
2355 C18
2356 J18
2360 N13
2361 N13
2362 M14
2363 M15
2364 M16
2365 M15
2366 M17
2375 O13
2377 O12
2378 L 2
2381 F 5
2382 F 5
2383 G 5
2385 B23
2386 K23
2391 B 3
2393 C 4
2394 J 4
2395 B 4
2396 I 4
2397 C 5
2398 J 5
2403 C14
2404 J14
2409 B12
2410 I12
2411 R14
2418 J21
2419 C21
2422 F 5
2423 D 2
2424 K 2
2425 C20
2426 J20
2429 G 5
2430 I19
2431 B19
2436 G 4
2437 F 6
2438 L14
2439 E14
3305 D 4
3306 I 5
3307 C 6
3308 J 6
3309 B 6
3310 I 6
3311 D 6
3312 K 6

3313 D 8
3314 K 8
3317 C 8
3318 J 8
3319 A12
3320 H12
3321 A12
3322 H12
3323 D 8
3324 K 8
3327 C 8
3328 J 8
3329 A12
3330 H12
3331 A12
3332 H12
3333 D 9
3334 K 9
3337 C 9
3338 J 9
3339 B12
3340 I12
3341 B12
3342 I12
3343 D10
3344 K10
3347 C10
3348 J10
3349 C12
3350 J12
3351 C12
3352 J12
3353 D12
3354 K12
3357 B13
3358 J13
3359 R13
3360 M13
3361 N13
3362 M13
3363 B15
3364 I15
3365 C15
3366 J15
3367 B14
3368 I14
3371 C16
3372 J16
3373 D17
3374 K17
3376 A18
3377 B16
3378 I16
3379 A18
3380 H18
3381 C19
3382 J19

3374 I17
3375 B17
3376 I17
3377 D17
3378 K17
3379 D19
3380 K19
3381 C19
3382 J19
3383 C19
3384 J19
3389 C21
3390 J21
3401 N17
3402 M14
3403 L14
3404 M14
3427 B 3
3428 I 3
3431 E 4
3433 G 4
3434 F 5
3435 G 5
3436 F 6
3437 F 6
3438 F 7
3439 G 6
3432 H 4
3443 D 7
3453 B 4
3454 I 4
3455 C 4
3456 J 4
3457 B 5
3458 I 5
3459 D 1
3460 K 1
3461 D 2
3462 K 2
5001 L18
6311 M 6
6312 M 6
6314 N13
6315 M15
6331 O 7
6332 O 6
6333 N 6
6334 N 6

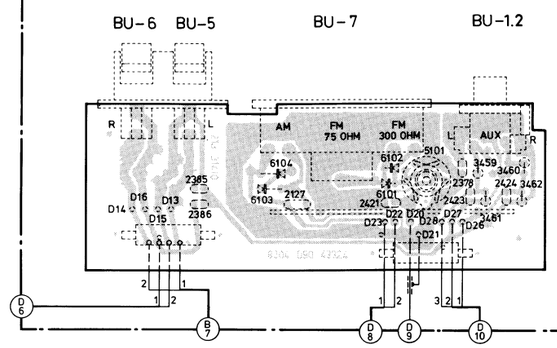
7301 C 6
7302 J 6
7308 M14
7311 F 5
7312 F 6
7315 B 4
7316 I 4

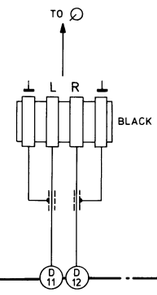


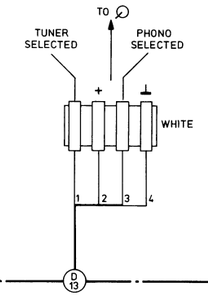
5001

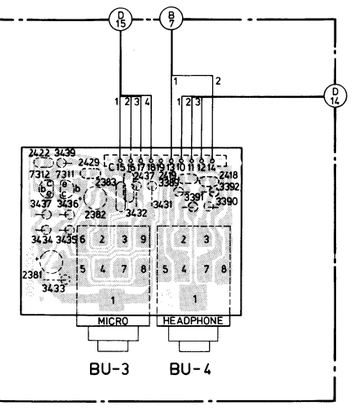
U PRIM	WIN-DING	INTER-CONNECT	
110V *	N-2	1-3	2-4
127V *	N-5	1-3	2-4
220V	N-4	2-3	
240V	N-5	2-3	

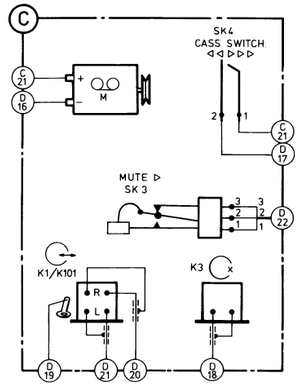
* ONLY AFTER INTERRUPTION OF 2-3

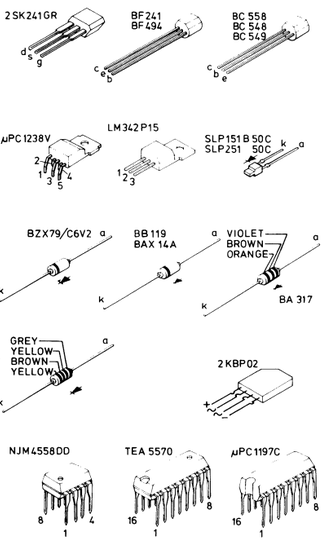


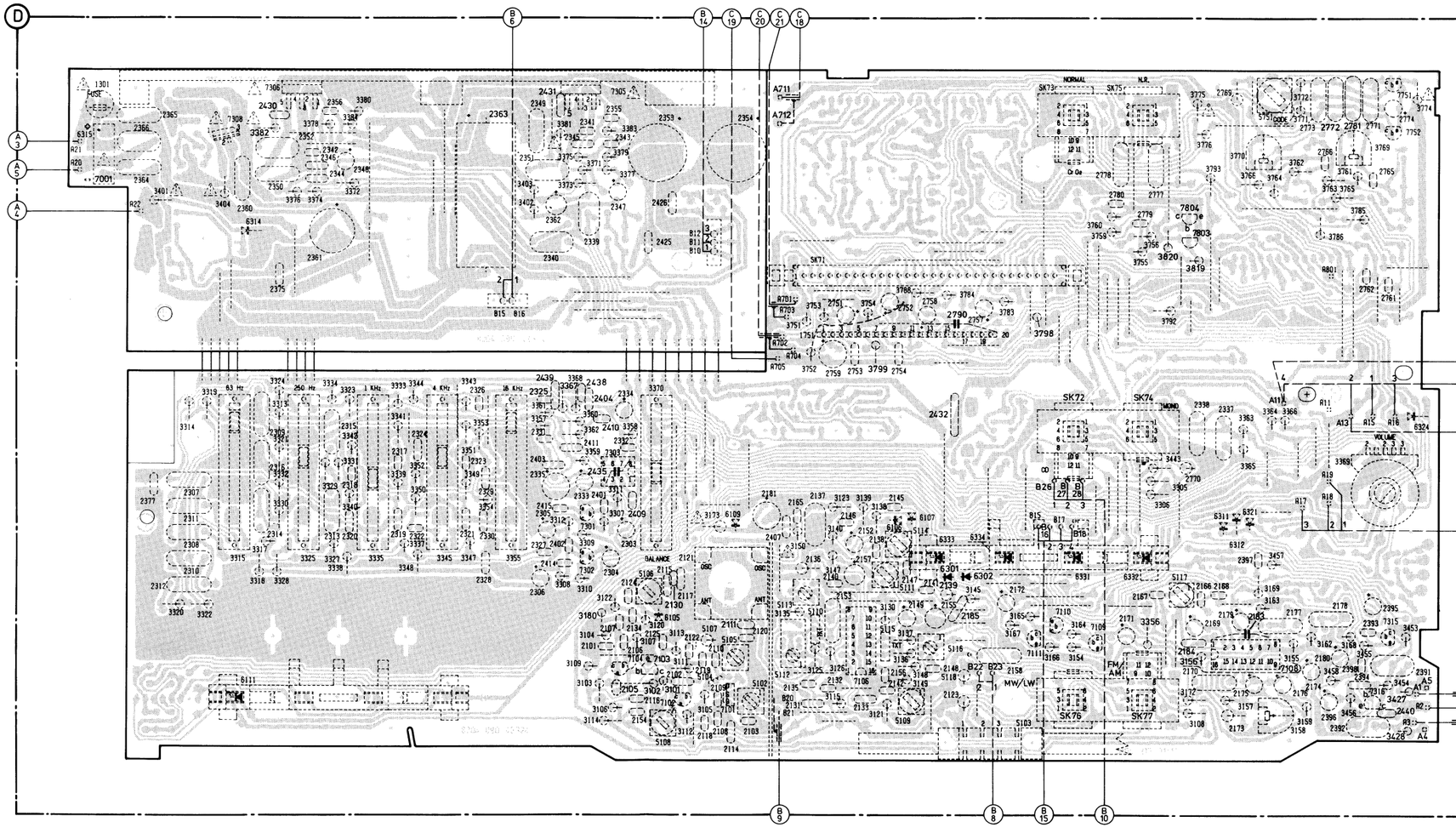












37 213 E12

1301	C03	2337	I05	3111	F06	3370	F05	6109	G06
1751	G05	2338	I05	3112	F07	3371	F04	6301	H06
2101	F06	2339	F04	3113	F06	3372	D04	6302	H06
2102	F07	2340	F04	3114	F07	3373	F04	6311	I06
2103	G07	2341	F03	3115	G07	3374	D04	6312	J05
2105	F07	2342	D03	3120	F06	3375	F04	6314	D04
2106	F06	2343	F03	3121	G07	3376	D04	6315	C03
2107	F07	2344	D04	3122	F06	3377	F04	6321	J05
2108	G07	2345	F03	3123	G06	3378	D03	6324	J05
2109	G07	2346	D04	3125	G06	3379	F04	6331	I06
2110	F06	2347	F04	3126	G06	3380	D03	6332	I06
2111	G06	2348	D04	3130	G06	3381	F03	6333	H06
2114	G07	2349	E03	3135	G06	3382	D03	6334	H06
2115	F06	2350	D04	3136	H06	3383	F03	7101	G07
2116	F07	2351	E04	3137	H06	3384	D03	7103	F06
2117	F06	2352	D03	3138	G06	3389	J01	7104	F06
2118	F07	2353	F03	3139	G06	3390	J01	7106	G06
2119	F07	2354	G03	3140	G06	3391	J01	7108	J05
2120	G06	2355	F03	3145	H06	3392	J01	7109	I06
2121	F06	2356	D03	3147	G06	3401	C04	7110	H06
2122	F06	2360	D04	3148	H07	3402	E04	7111	D07
2123	H07	2361	D04	3149	H07	3403	E04	7254	H05
2124	F06	2362	F04	3150	G06	3404	D04	7301	F06
2125	F06	2363	E03	3154	I06	3427	J07	7302	F06
2130	F06	2364	C04	3155	J05	3428	J07	7303	F05
2132	G07	2365	C03	3156	I06	3431	J01	7305	F03
2133	G07	2366	C03	3157	I07	3432	J01	7306	D03
2134	F06	2375	D04	3158	J07	3433	J02	7308	D03
2135	G07	2377	C06	3159	J07	3434	J02	7311	J01
2136	G06	2378	E02	3162	J05	3435	J02	7312	J01
2137	G06	2381	J02	3163	J05	3436	J01	7315	J05
2138	G06	2382	J01	3164	I06	3437	J01	7316	J07
2139	H06	2383	J01	3165	H06	3439	J01	7751	J03
2140	G06	2385	D02	3166	H06	3443	I05	7752	J03
2141	H06	2386	D02	3167	H06	3453	J05	7803	I04
2142	G07	2391	J05	3168	J05	3454	J07	7804	I04
2146	G06	2392	J07	3169	J05	3455	J05		
2147	H06	2393	J05	3172	I07	3456	J07		
2148	H07	2394	J07	3173	F06	3457	J05		
2149	H06	2395	J05	3180	F06	3458	J07		
2152	G06	2396	J07	3305	I05	3459	E02		
2153	G06	2397	J05	3306	I06	3460	F02		
2154	F07	2398	J05	3307	F06	3461	E02		
2155	H06	2401	F06	3308	F06	3462	F02		
2156	G07	2402	F06	3309	F06	3751	G05		
2157	G06	2403	E05	3310	F06	3752	G05		
2158	H07	2404	F05	3311	F06	3753	G04		
2165	G06	2407	G06	3312	F06	3754	G04		
2166	I06	2409	F06	3313	D05	3755	I04		
2167	I06	2410	F05	3314	C05	3756	I04		
2168	I06	2411	F05	3315	D06	3759	I04		
2169	I06	2414	F06	3317	D06	3761	J04		
2170	I06	2415	F06	3318	D06	3762	J04		
2171	I06	2418	J01	3319	D05	3763	J04		
2172	H06	2419	J01	3321	D05	3764	J04		
2173	I07	2421	E02	3322	D06	3765	J04		
2174	J07	2422	J01	3323	D05	3766	J04		
2175	J07	2423	E02	3324	D05	3769	J03		
2176	J07	2424	F02	3325	D06	3770	J04		
2177	J05	2425	F04	3327	D06	3771	J03		
2178	J05	2426	F04	3328	D06	3772	J03		
2179	I06	2429	J01	3329	D05	3775	I03		
2180	J05	2430	D03	3330	D06	3776	I03		
2181	G06	2431	F03	3331	D05	3780	I04		
2183	J05	2432	H05	3332	D05	3783	H04		
2184	I06	2435	F05	3333	E05	3784	H04		
2185	H06	2437	J01	3334	D05	3785	J04		
2303	F06	2438	F05	3335	D06	3786	J04		
2304	F06	2440	J07	3337	E06	3788	H04		
2305	F06	2726	J04	3338	D06	3792	I04		
2306	E06	2751	G04	3339	E05	3793	I04		
2307	C05	2752	G04	3340	D06	3798	H05		
2308	C06	2753	G05	3341	E05	3799	G05		
2309	D05	2757	H04	3342	D05	3819	I04		
2310	C06	2758	H04	3343	E05	3820	I04		
2311	C06	2759	G05	3344	E05	5101	E02		
2312	C06	2761	J04	3345	E06	5102	G07		
2313	D06	2765	J04	3347	E06	5104	F07		
2314	D06	2766	J04	3348	E06	5105	G06		
2315	D05	2769	I03	3349	E05	5106	F06		
2316	D05	2770	I05	3350	E06	5107	F06		
2317	E05	2771	J03	3351	E05	5108	F07		
2318	D05	2772	J03	3352	E05	5109	H07		
2319	E06	2773	J03	3353	E05	5110	G06		
2320	D06	2774	J03	3354	E06	5111	H06		
2321	E06	2777	I04	3355	E06	5112	G07		
2322	E06	2778	I04	3356	I06	5113	G06		
2323	E05	2779	I04	3357	E05	5114	H06		
2324	E05	2780	I04	3358	F05	5115	G06		
2325	E05	2781	J03	3359	F05	5116	H06		
2326	E05	2790	H04	3360	F05	5117	I06		
2327	E06	3101	F07	3361	E05	5118	H07		
2328	E06	3102	F07	3362	F05	5751	J03		
2329	E05	3103	F07	3363	J05	6101	E02		
2330	E06	3104	F06	3364	J05	6102	E02		
2331	E05	3105	F07	3365	J05	6103	D02		
2332	F05	3106	F07	3366	J05	6104	D02		
2333	F06	3107	F06	3367	F05	6105	F06		
2334	F05	3108	I07	3368	F05	6106	H06		
2335	E05	3109	F06	3369	J05	6107	H06		

RF + IF PART

		FM	AM
7101	d	4.8 V	
	s	0 V	
	g	0 V	
7102	e	1.0 V	0 V
	b	1.8 V	0 V
	c	5.6 V	6 V
7103	e	0 V	
	b	0.7 V	
	c	2.7 V	
7104	e	0.6 V	0 V
	b	1.3 V	0 V
	c	3.8 V	6 V
7106	1	1.4 V	0.0 V
	2	0.7 V	1.5 V
	3	0.7 V	1.5 V
	4	5.7 V	6.0 V
	5	4.0 V	6.0 V
	6	0.7 V	0.7 V
	7	6.0 V	6.0 V
	8	6.0 V	6.0 V
	9	5.5 V	6.0 V
	10	5.5 V	6.0 V
	11	1.4 V	1.4 V
	12	0.0 V	0.0 V
	13	0.7 V	0.7 V
	14	5.3 V	6.0 V
	15	0.0 V	0.1 V
	16	0.0 V	0.0 V

		FM	AM
7108	1	7.0 V	7.0 V
	2	1.5 V	1.5 V
	3	2.0 V	2.0 V
	4	2.3 V	2.3 V
	5	2.3 V	2.3 V
	6	11.5 V	11.5 V
	7	0.0 V	0.0 V
	8	0.3 V	0.3 V
	9	0.7 V	5.0 V
	10	1.7 V	1.7 V
	11	1.7 V	1.7 V
	12	1.3 V	0.1 V
	13	1.7 V	1.7 V
	14	1.7 V	1.7 V
	15	1.7 V	1.7 V
	16	1.9 V	0.2 V
7109	e	7.1 V	7.1 V
	b	6.3 V	6.3 V
	c	7.0 V	7.0 V
7110	e	0.0 V	0.0 V
	b	0.7 V	0.7 V
	c	0.0 V	0.0 V
7111	e	0.0 V	0.0 V
	b	0.4 V	0.4 V
	c	0.7 V	0.7 V

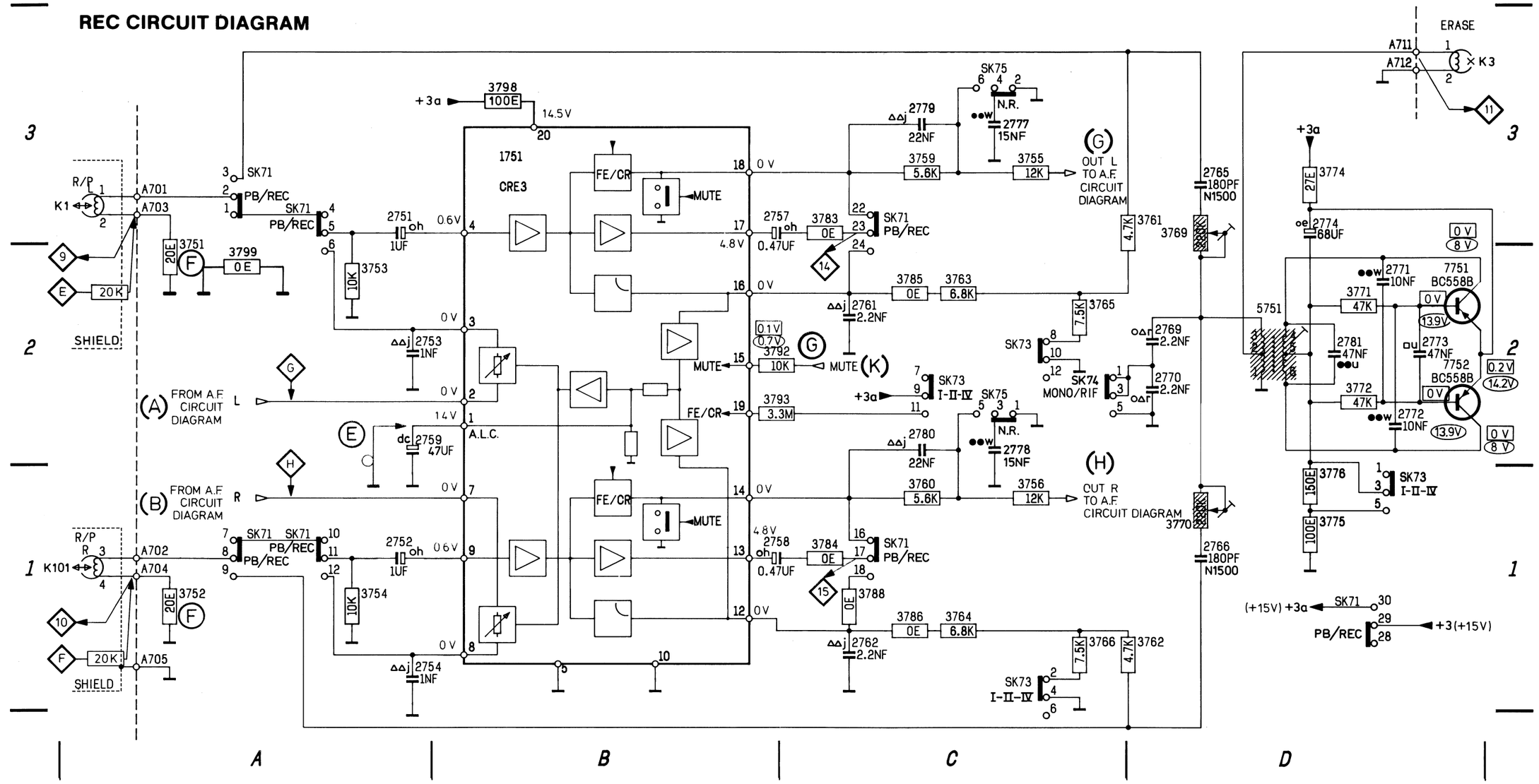
AF PART

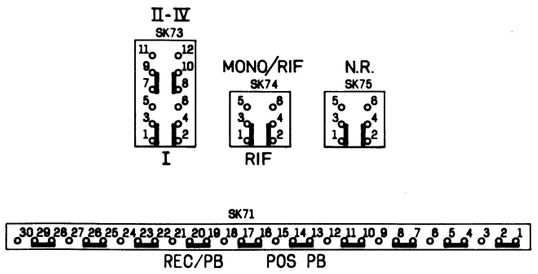
7301	e	0.7 V
	b	1.4 V
	c	11.0 V
7302	e	0.7 V
	b	1.4 V
	c	11.0 V
7303	1	7.7 V
	2	7.7 V
	3	7.7 V
	4	0.0 V
	5	7.7 V
	6	7.7 V
	7	7.7 V
	8	15.0 V
7305	1	14.9 V
	2	15.1 V
	3	0.0 V
	4	15.1 V
	5	30 V
7306	1	14.9 V
	2	15.1 V
	3	0.0 V
	4	15.1 V
	5	30 V
7308	1	30 V
	2	0.0 V
	3	15 V
7311	e	0.2 V
	b	0.8 V
	c	9.4 V
7312	e	10 V
	b	9.4 V
	c	0.2 V
7315	e	7.6 V
	b	7.2 V
	c	15.0 V

REC PART

		PLAY	REC
7751	e	0.2 V	14.2 V
	b	0.0 V	13.9 V
	c	0.0 V	8.0 V
7752	e	0.2 V	14.2 V
	b	0.0 V	13.9 V
	c	0.0 V	8.0 V
1751	1	1.4 V	1.4 V
	2	0.0 V	0.0 V
	3	0.0 V	0.0 V
	4	0.6 V	0.6 V
	5	0.0 V	0.0 V
	6	0.0 V	0.0 V
	7	0.0 V	0.0 V
	8	0.0 V	0.0 V
	9	0.6 V	0.6 V
	10	0.0 V	0.0 V
	11	0.0 V	0.0 V
	12	0.0 V	0.0 V
	13	4.8 V	4.8 V
	14	0.0 V	0.0 V
	15	0.1 V	0.7 V
	16	0.0 V	0.0 V
	17	4.8 V	4.8 V
	18	0.0 V	0.0 V
	19	≈	≈
	20	14.5 V	14.5 V

REC CIRCUIT DIAGRAM





FOR SERVICING PURPOSES THE 0Ω "RESISTORS" CAN BE REPLACED BY a CONNECTION WIRE

ALL RESISTORS — UNLESS OTHERWISE STATED

ELECTRONIC VOLTMETER

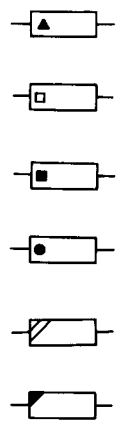
V PLAY BACK

V RECORDING

V ANY POSITION

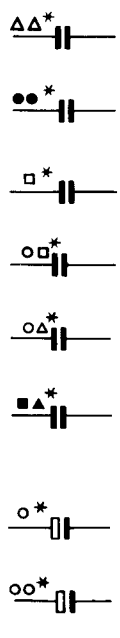
35 752C12

1751	B	3
2751	A	3
2752	A	1
2753	A	2
2754	A	1
2757	B	3
2758	B	1
2759	A	2
2761	C	2
2762	C	1
2765	D	3
2766	D	1
2769	D	2
2770	D	2
2771	D	2
2772	D	2
2773	D	2
2774	D	3
2777	C	3
2778	C	2
2779	C	3
2780	C	2
2781	D	2
3751	A	2
3752	A	1
3753	A	2
3754	A	1
3755	C	3
3756	C	1
3759	C	3
3760	C	1
3761	D	3
3762	D	1
3763	C	2
3764	C	1
3765	C	2
3766	C	1
3769	D	3
3770	D	1
3771	D	2
3772	D	2
3774	D	3
3775	D	1
3776	D	1
3783	C	3
3784	C	1
3785	C	2
3786	C	1
3788	C	1
3792	B	2
3793	B	2
3798	B	3
3799	A	2
5751	D	2
7751	D	2
7752	D	2
3891		
3820		
7803		
7804		



Carbon film 0.2 W	70°C	5%
Carbon film 0.33 W	70°C	5%
Metal film 0.33 W	70°C	5%
Carbon film 0.5 W	70°C	5%
Carbon film 0.67 W	70°C	5%
Carbon film 1.15 W	70°C	5%

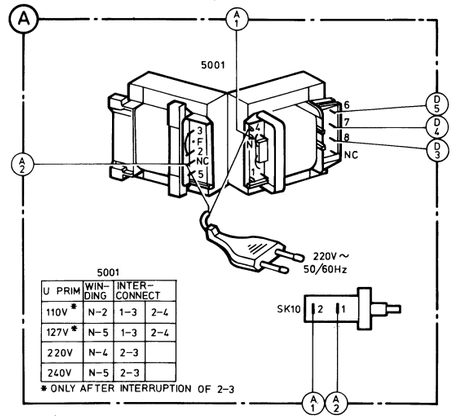
Ⓒ Chip component

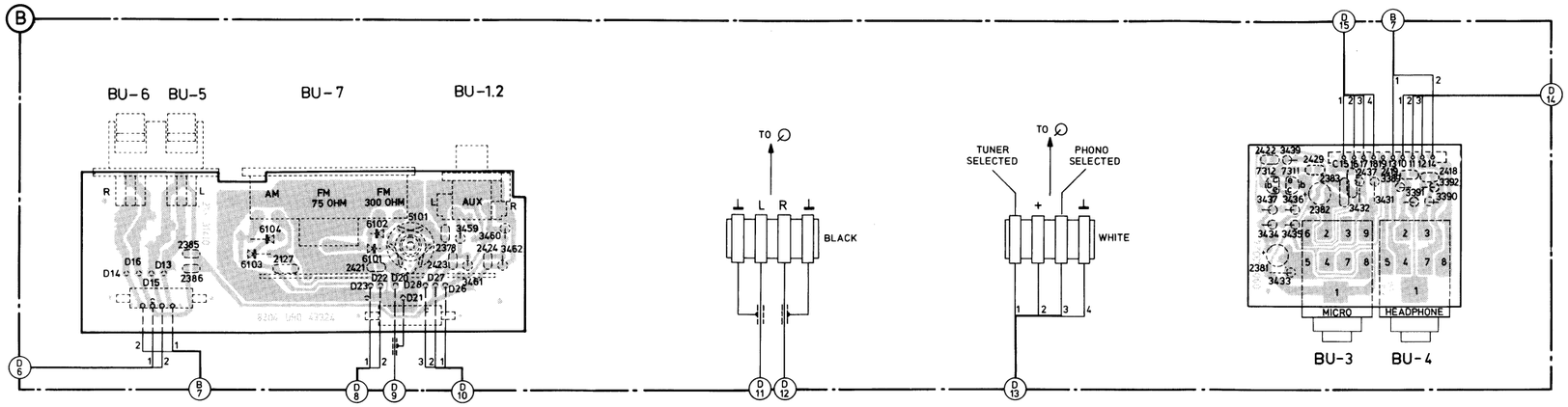


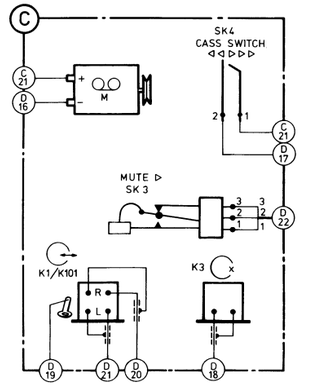
Ceramic plate Tuning ⩽ 120 pF NP.0		2%
Others		—20/+80%
Polyester flat foil		10%
Metalized polyester flat film		10%
Polyester flat foil small size (Mylar)		10%
Polysterene film/foil		1%
Tubular ceramic		
Miniature single		
Subminiature tantalum		± 20%

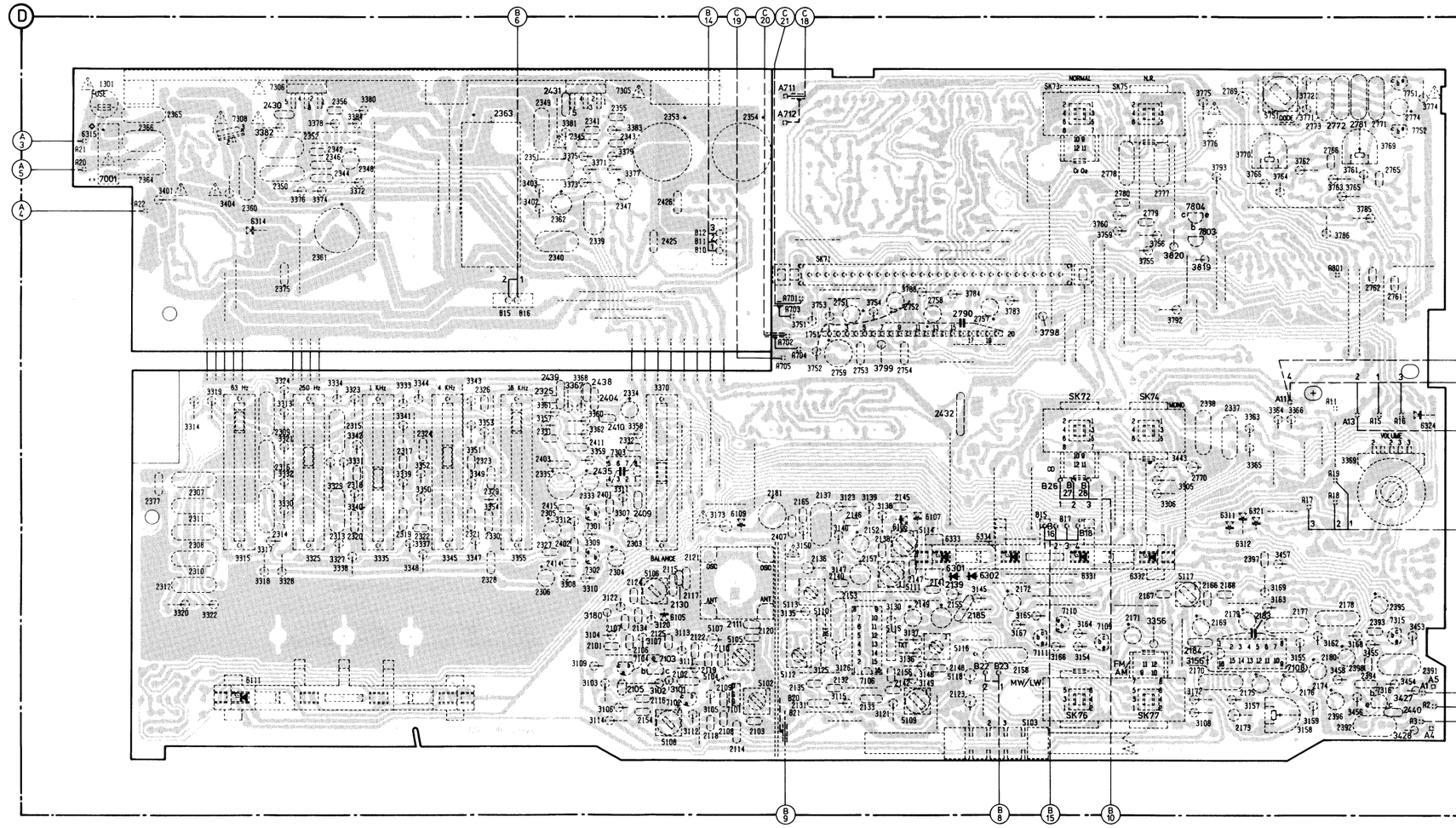
*a	=	2,5 V
b	=	4 V
c	=	6,3 V
d	=	10 V
e	=	16 V
f	=	25 V
g	=	40 V
h	=	63 V
j	=	100 V
l	=	125 V
m	=	150 V
n	=	160 V
q	=	200 V
r	=	250 V
s	=	300 V
t	=	350 V
u	=	400 V
v	=	500 V
w	=	630 V
x	=	1000 V
A	=	1,6 V
B	=	6 V
C	=	12 V
D	=	15 V
E	=	20 V
F	=	35 V
G	=	50 V
H	=	75 V
I	=	80 V

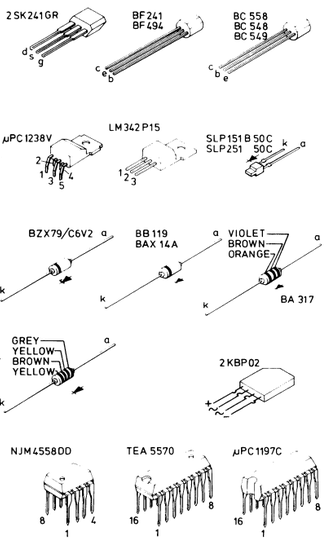
27 037A/C


5001
220V~
50/60Hz
SK10
5001
U PRIM | WIN-DING | INTER-CONNECT
110V * | N-2 | 1-3 | 2-4
127V * | N-5 | 1-3 | 2-4
220V | N-4 | 2-3 |
240V | N-5 | 2-3 |
* ONLY AFTER INTERRUPTION OF 2-3


BU-6
BU-5
BU-7
BU-1.2
AM
FM 75 OHM
FM 300 OHM
AUX
TO
BLACK
TUNER SELECTED
PHONO SELECTED
WHITE
MICRO
HEADPHONE
BU-3
BU-4


SK4
CASS SWITCH
MUTE
SK 3
K1/K101
K3


SK71
SK72
SK73
SK74
SK75
SK76
SK77
MW/LW
FM AM
VOLUME


2SK241GR
BF241
BF494
BC 558
BC 548
BC 549
µPC1238V
LM342P15
SLP151B50C
SLP251 50C
BZX79/C6V2
BB119
BAX 14A
VIOLET
BROWN
ORANGE
BA 317
GREY
YELLOW
BROWN
YELLOW
2KBP02
NJM4558OD
TEA 5570
µPC1197C

37 213 E12

1301	C03	2337	I05	3111	F06	3370	F05	6109	G06
1751	G05	2338	I05	3112	F07	3371	F04	6301	H06
2101	F06	2339	F04	3113	F06	3372	D04	6302	H06
2102	F07	2340	F04	3114	F07	3373	F04	6311	I06
2103	G07	2341	F03	3115	G07	3374	D04	6312	J05
2105	F07	2342	D03	3120	F06	3375	F04	6314	D04
2106	F06	2343	F03	3121	G07	3376	D04	6315	C03
2107	F07	2344	D04	3122	F06	3377	F04	6321	J05
2108	G07	2345	F03	3123	G06	3378	D03	6324	J05
2109	G07	2346	D04	3125	G06	3379	F04	6331	I06
2110	F06	2347	F04	3126	G06	3380	D03	6332	I06
2111	G06	2348	D04	3130	G06	3381	F03	6333	H06
2114	G07	2349	E03	3135	G06	3382	D03	6334	H06
2115	F06	2350	D04	3136	H06	3383	F03	7101	G07
2116	F07	2351	E04	3137	H06	3384	D03	7103	F06
2117	F06	2352	D03	3138	G06	3389	J01	7104	F06
2118	F07	2353	F03	3139	G06	3390	J01	7106	G06
2119	F07	2354	G03	3140	G06	3391	J01	7108	J05
2120	G06	2355	F03	3145	H06	3392	J01	7109	I06
2121	F06	2356	D03	3147	G06	3401	C04	7110	H06
2122	F06	2360	D04	3148	H07	3402	E04	7111	D07
2123	H07	2361	D04	3149	H07	3403	E04	7254	H05
2124	F06	2362	F04	3150	G06	3404	D04	7301	F06
2125	F06	2363	E03	3154	I06	3427	J07	7302	F06
2130	F06	2364	C04	3155	J05	3428	J07	7303	F05
2132	G07	2365	C03	3156	I06	3431	J01	7305	F03
2133	G07	2366	C03	3157	I07	3432	J01	7306	D03
2134	F06	2375	D04	3158	J07	3433	J02	7308	D03
2135	G07	2377	C06	3159	J07	3434	J02	7311	J01
2136	G06	2378	E02	3162	J05	3435	J02	7312	J01
2137	G06	2381	J02	3163	J05	3436	J01	7315	J05
2138	G06	2382	J01	3164	I06	3437	J01	7316	J07
2139	H06	2383	J01	3165	H06	3439	J01	7751	J03
2140	G06	2385	D02	3166	H06	3443	I05	7752	J03
2141	H06	2386	D02	3167	H06	3453	J05	7803	I04
2142	G07	2391	J05	3168	J05	3454	J07	7804	I04
2146	G06	2392	J07	3169	J05	3455	J05		
2147	H06	2393	J05	3172	I07	3456	J07		
2148	H07	2394	J07	3173	F06	3457	J05		
2149	H06	2395	J05	3180	F06	3458	J07		
2152	G06	2396	J07	3305	I05	3459	E02		
2153	G06	2397	J05	3306	I06	3460	F02		
2154	F07	2398	J05	3307	F06	3461	E02		
2155	H06	2401	F06	3308	F06	3462	F02		
2156	G07	2402	F06	3309	F06	3751	G05		
2157	G06	2403	E05	3310	F06	3752	G05		
2158	H07	2404	F05	3311	F06	3753	G04		
2165	G06	2407	G06	3312	F06	3754	G04		
2166	I06	2409	F06	3313	D05	3755	I04		
2167	I06	2410	F05	3314	C05	3756	I04		
2168	I06	2411	F05	3315	D06	3759	I04		
2169	I06	2414	F06	3317	D06	3761	J04		
2170	I06	2415	F06	3318	D06	3762	J04		
2171	I06	2418	J01	3319	D05	3763	J04		
2172	H06	2419	J01	3321	D05	3764	J04		
2173	I07	2421	E02	3322	D06	3765	J04		
2174	J07	2422	J01	3323	D05	3766	J04		
2175	J07	2423	E02	3324	D05	3769	J03		
2176	J07	2424	F02	3325	D06	3770	J04		
2177	J05	2425	F04	3327	D06	3771	J03		
2178	J05	2426	F04	3328	D06	3772	J03		
2179	I06	2429	J01	3329	D05	3775	I03		
2180	J05	2430	D03	3330	D06	3776	I03		
2181	G06	2431	F03	3331	D05	3780	I04		
2183	J05	2432	H05	3332	D05	3783	H04		
2184	I06	2435	F05	3333	E05	3784	H04		
2185	H06	2437	J01	3334	D05	3785	J04		
2303	F06	2438	F05	3335	D06	3786	J04		
2304	F06	2440	J07	3337	E06	3788	H04		
2305	F06	2726	J04	3338	D06	3792	I04		
2306	E06	2751	G04	3339	E05	3793	I04		
2307	C05	2752	G04	3340	D06	3798	H05		
2308	C06	2753	G05	3341	E05	3799	G05		
2309	D05	2757	H04	3342	D05	3819	I04		
2310	C06	2758	H04	3343	E05	3820	I04		
2311	C06	2759	G05	3344	E05	5101	E02		
2312	C06	2761	J04	3345	E06	5102	G07		
2313	D06	2765	J04	3347	E06	5104	F07		
2314	D06	2766	J04	3348	E06	5105	G06		
2315	D05	2769	I03	3349	E05	5106	F06		
2316	D05	2770	I05	3350	E06	5107	F06		
2317	E05	2771	J03	3351	E05	5108	F07		
2318	D05	2772	J03	3352	E05	5109	H07		
2319	E06	2773	J03	3353	E05	5110	G06		
2320	D06	2774	J03	3354	E06	5111	H06		
2321	E06	2777	I04	3355	E06	5112	G07		
2322	E06	2778	I04	3356	I06	5113	G06		
2323	E05	2779	I04	3357	E05	5114	H06		
2324	E05	2780	I04	3358	F05	5115	G06		
2325	E05	2781	J03	3359	F05	5116	H06		
2326	E05	2790	H04	3360	F05	5117	I06		
2327	E06	3101	F07	3361	E05	5118	H07		
2328	E06	3102	F07	3362	F05	5751	J03		
2329	E05	3103	F07	3363	J05	6101	E02		
2330	E06	3104	F06	3364	J05	6102	E02		
2331	E05	3105	F07	3365	J05	6103	D02		
2332	F05	3106	F07	3366	J05	6104	D02		
2333	F06	3107	F06	3367	F05	6105	F06		
2334	F05	3108	I07	3368	F05	6106	H06		
2335	E05	3109	F06	3369	J05	6107	H06		

RF + IF PART

		FM	AM
7101	d	4.8 V	
	s	0 V	
	g	0 V	
7102	e	1.0 V	0 V
	b	1.8 V	0 V
	c	5.6 V	6 V
7103	e	0 V	
	b	0.7 V	
	c	2.7 V	
7104	e	0.6 V	0 V
	b	1.3 V	0 V
	c	3.8 V	6 V
7106	1	1.4 V	0.0 V
	2	0.7 V	1.5 V
	3	0.7 V	1.5 V
	4	5.7 V	6.0 V
	5	4.0 V	6.0 V
	6	0.7 V	0.7 V
	7	6.0 V	6.0 V
	8	6.0 V	6.0 V
	9	5.5 V	6.0 V
	10	5.5 V	6.0 V
	11	1.4 V	1.4 V
	12	0.0 V	0.0 V
	13	0.7 V	0.7 V
	14	5.3 V	6.0 V
	15	0.0 V	0.1 V
	16	0.0 V	0.0 V

AF PART

7301	e	0.7 V
	b	1.4 V
	c	11.0 V
7302	e	0.7 V
	b	1.4 V
	c	11.0 V
7303	1	7.7 V
	2	7.7 V
	3	7.7 V
	4	0 0 V
	5	7.7 V
	6	7.7 V
	7	7.7 V
	8	15.0 V
7305	1	14.9 V
	2	15.1 V
	3	0.0 V
	4	15.1 V
	5	30 V
7306	1	14.9 V
	2	15.1 V
	3	0.0 V
	4	15.1 V
	5	30 V
7308	1	30 V
	2	0.0 V
	3	15 V
7311	e	0.2 V
	b	0.8 V
	c	9.4 V
7312	e	10 V
	b	9.4 V
	c	0.2 V
7315	e	7.6 V
	b	7.2 V
	c	15.0 V

		FM	AM
7108	1	7.0 V	7.0 V
	2	1.5 V	1.5 V
	3	2.0 V	2.0 V
	4	2.3 V	2.3 V
	5	2.3 V	2.3 V
	6	11.5 V	11.5 V
	7	0.0 V	0.0 V
	8	0.3 V	0.3 V
	9	0.7 V	5.0 V
	10	1.7 V	1.7 V
	11	1.7 V	1.7 V
	12	1.3 V	0.1 V
	13	1.7 V	1.7 V
	14	1.7 V	1.7 V
	15	1.7 V	1.7 V
	16	1.9 V	0.2 V
7109	e	7.1 V	7.1 V
	b	6.3 V	6.3 V
	c	7.0 V	7.0 V
7110	e	0.0 V	0.0 V
	b	0.7 V	0.7 V
	c	0.0 V	0.0 V
7111	e	0.0 V	0.0 V
	b	0.4 V	0.4 V
	c	0.7 V	0.7 V

REC PART

		PLAY	REC
7751	e	0.2 V	14.2 V
	b	0.0 V	13.9 V
	c	0.0 V	8.0 V
7752	e	0.2 V	14.2 V
	b	0.0 V	13.9 V
	c	0.0 V	8.0 V
1751	1	1.4 V	1.4 V
	2	0.0 V	0.0 V
	3	0.0 V	0.0 V
	4	0.6 V	0.6 V
	5	0.0 V	0.0 V
	6	0.0 V	0.0 V
	7	0.0 V	0.0 V
	8	0.0 V	0.0 V
	9	0.6 V	0.6 V
	10	0.0 V	0.0 V
	11	0.0 V	0.0 V
	12	0.0 V	0.0 V
	13	4.8 V	4.8 V
	14	0.0 V	0.0 V
	15	0.1 V	0.7 V
	16	0.0 V	0.0 V
	17	4.8 V	4.8 V
	18	0.0 V	0.0 V
	19	≈	≈
	20	14.5 V	14.5 V

ALIGNMENT

General

- During the alignment, keep the levels of the injected signals as low as possible.
- Alignment of IF stages requires a sweep signal.
  For FM: Apply a 10.7 MHz signal with a sweep of 300 kHz at a frequency of 50 Hz.
  For AM: Apply a 450 kHz (468 kHz) signal with a sweep of 10 kHz at a frequency of 50 Hz.
- Switch SK13 position: stereo

Equipment required

- RF generator
- Oscilloscope
- DC-millivoltmeter
- AC-millivoltmeter
- Frequency counter

FM-IF

SK switch	signal	to	tune in	DETUNE	adjust	oscilloscope	DC mV meter
FM SK-77	10.7 MHz Δf 300 kHz (50 Hz)	◇C		A B		◇2 1 center fo	
	fo=f generator Δf=10 kHz (50 Hz)				5108	◇2 2 symmetrical max.	
	10,7 MHz Δf 300 kHz (50 Hz) 1 mV				5114 5111	◇3 3 symmetrical	
	10,7 MHz No sweep				5114		DC ◇3 0 V ± 30 mV
				B			

FM-oscillator

FM SK-77	87.63 MHz mod. 1 kHz Δf 22.5 kHz	◇D	max. cap. 2121		5106	◇3 max. ~	
	108.0 MHz mod. 1 kHz Δf 22.5 kHz		min. cap. 2121		2121e		

FM-RF antenna section

FM SK-77	87.63 MHz mod. 1 kHz Δf 22.5 kHz	◇D	▭		5105	◇3 max. ~	
	108.0 MHz mod. 1 kHz Δf 22.5 kHz				2121h		
				A			

Stereo-decoder

FM SK-77	No signal				3158	Counter ◇4 19 kHz ± 100 Hz	

(GB)

1 Place the peak of the band-pass curve in the middle of the picture by shifting the sweep frequency.

2 Adjust for maximum height and symmetry.

3 Adjust for linearity and symmetry of the S-curve.

A Switch off A.F.C. by short-circuiting 2137.

B Open solder bridge Ⓐ.

(F)

1 En décalant la fréquence de wobulation, placer la crête de la courbe de réponse au centre de l'écran.

2 Ajuster pour avoir une courbe d'amplitude maximale et de bonne symétrie.

3 Ajuster pour avoir une courbe en S de bonne linéarité et de bonne symétrie.

A Mettre la C.A.F. hors service en court-circuitant, le condensateur 2137.

B Ouvrir le pontet Ⓐ.

(NL)

1 De top van de doorlaat curve, door verschuiven van wobbelfrequentie, in het midden van het scherm plaatsen.

2 Afregelen op maximum hoogte en symmetrie.

3 Afregelen op lineariteit en symmetrie van de S-kurve.

A A.F.C. uitschakelen door 2137 kort te sluiten.

B Open soldeerbrug Ⓐ.

(I)

1 Portare la cresta della curva di risposta al centro dello schermo per mezzo di scivolamento della frequenza di modulazione.

2 Regolare per altezza e simmetria massima.

3 Regolare per linearità e simmetria della curva ad S.

A Mettere il C.A.F. fuori funzionamento cortocircuitando il condensatore 2137.

B Aprire il ponticello Ⓐ.

AM-IF

SK switch	signal	to	tune in	adjust	oscilloscope	AC mV meter
AM SK-77 MW SK-76	450 kHz Δf 10 kHz (50 Hz)				◇1 1 center fo	
	fo=f generator Δf=10 kHz (50 Hz)	Ⓐ	2121 max. cap.	5112 5116	Symmetrical ◇1 MAX. 2	

AM-RF-oscillator

AM SK-77 LW SK76	147 kHz mod: 1 kHz 30%	Ⓐ	2121 max. cap.	5113		◇1 max.~
AM SK-77 MW SK-76	1635 kHz mod: 1 kHz 30%		2121 min. cap.	2121f		

AM-RF-antenna section

AM SK-77 MW SK-76	560 kHz mod: 1 kHz 30%	Ⓑ		5103		◇1 max.~
	1500 kHz mod: 1 kHz 30%			2121g		
AM SK-77 LW SK-76	160 kHz mod: 1 kHz 30%			5109		

↕ Repeat - Herhalen - Répéter - Wiederholen - Ricomminciare

(D)

1 Die Spitze der Durchlasskurve in der Mitte des Bildes legen dadurch, dass man die Wobbelfrequenz verschiebt.

2 Abgleichen auf Maximalhöhe und Symmetrie.

3 Abgleichen auf Linearität und Symmetrie der S-Kurve.

A A.F.C.-Regelung ausschalten durch kurzschluss von 2137.

B Lötbrücke Ⓐ öffnen.

"Bei notwendigem Abgleich ist das Gerät auf die gesetzlich vorgeschriebenen Eckfrequenzen abzugleichen".
>87.2 MHz <108.5 MHz

(GB) Electrical measurements and adjustments "Recorder"

Ⓐ — The maximum permissible speed deviation is ±2%.
Moreover, the wow and flutter value can be read.
— This value should not exceed 0.35%.

Ⓑ — Connect the Service cassette set to the apparatus via one of the loudspeaker connectors.
— Set the apparatus to the play back position with the 50 Hz cassette from the cassette service set.
— With R at the back of the motor, adjust for minimum variation of the indicator reading.

Ⓒ — If the accuracy requirements are less stringent a high quality ferro (normal) cassette may be used as an alternative.

Ⓓ — If the adjustment is correct the frequency response curve will be similar to curve b in Fig. 2 (distortion ⩽5%).

Ⓔ — Switch off A.L.C. by short-circuiting electrolytic capacitor 2771.

Ⓕ — First check whether R3751 (3752) has been short-circuited.
In the affirmative case eliminate this short-circuit before proceeding to the measurement and the adjustment.
After the set has been correctly adjusted, this short-circuit shall be applied again.

Ⓖ — During this measurement the mute shall be switched off by interrupting R3792. After the measurements have been performed, R3792 shall be correctly remounted.

(F) Mesurer electriques et reglages "Recorder"

Ⓐ — L'écart de vitesse maximum admissible est de ±2%.
Le taux de pleurage pourra également être lu lors de cette mesure.
— Cette valeur ne doit pas dépasser 0,35%.

Ⓑ — Relier par l'intermédiare d'un des connecteurs de haut-parleur la section cassette Service à l'appareil.
— Positionner en reproduction et faire passer une cassette 50 Hz de la section cassette Service.
— Régler grâce à R à l'arrière du moteur pour que la variation sur l'indicateur soit minimum.

Ⓒ — Si les exigences du point de précision, ne sont pas tellement élevées, une cassette au ferro (normale) de bonne qualité, pourra également convenir.

Ⓓ — Si le réglage est correctement effectué, la courbe de fréquence devra être égale à la courbe b de la Fig. 2 (distorsion ⩽ 5%).

Ⓔ — Mettre la A.L.C. hors service en court-circuitant le condensateur chimique 2771.

Ⓕ — Vérifier avant tout si R3751 (3752) est court-circuitée.
Dans l'affirmative, supprimer ce court-circuit avant de procéder aux mesures et réglages.
Rétablir ce court-circuit dès que l'appareil est bien réglé.

Ⓖ — Pour cette mesure il faudra préalablement mettre le silencieux hors service en interrompant R3792.
Après avoir effectué les mesures R3792 doit être remis correctement en place.

(NL) Elektrische metingen en instellingen "Recorder"

Ⓐ — De hoogst toelaatbare snelheidsafwijking bedraagt ±2%.
Tevens kan bij deze meting de jengelwaarde afgelezen worden.
— Deze waarde mag niet hoger zijn dan 0.35%.

Ⓑ — Via een van de luidsprekerconnectors het Service-cassettedeel met het apparaat verbinden.
— Zet het apparaat in de weergeefstand met de 50 Hz cassette uit het Service-cassettedeel.
— Met R aan de achterzijde van de motor op minimale variatie van de indicatoraflezing instellen.

Ⓒ — Als de nauwkeurigheidseisen minder streng zijn, kan als alternatief een ferro-cassette (normal) van hoge kwaliteit gebruikt worden.

Ⓓ — Als de instelling juist is, zal de frequentiekromme gelijk zijn aan kromme b in Fig. 2 (vervorming ⩽5%).

Ⓔ — A.L.C. regeling uitschakelen door elco 2771 kort te sluiten.

Ⓕ — Kontroleer eerst of R3751 (3752) niet is kortgesloten.
Zo ja, verwijder voor het meten en instellen deze kortsluiting.
Nadat het apparaat correct is ingesteld moeten deze kortsluitingen weer aangebracht worden.

Ⓖ — Bij deze meting moet de mute uitgeschakeld worden door R3792 te onderbreken. Nadat de metingen zijn gedaan moet R3792 weer correct gemonteerd worden.

(D) Elektrische Messungen und einstellungen "Recorder"

Ⓐ — Die höchstzulässige Geschwindigkeits-abweichung beträgt ±2%.
Auch lässt sich bei dieser Messung der Jaulwert ablesen.
— Dieser Wert darf 0,35% nicht überschreiten.

Ⓑ — Über einen der Lautsprecherkonnektoren den Service-Cassettenteil mit dem Gerät verbinden.
— Mit dem 50-Hz-Cassette aus dem Service-Cassettenteil das Gerät in die Wiedergabestellung bringen.
— Mit R auf der Rückseite des Motors auf Mindest-Schwankung der Anzeigerablesung einstellen.

Ⓒ — Wenn die Genauigkeitsanforderungen weniger streng sind, kann als Alternative eine Hochsleistungs-Ferrocassette (Normal) benutzt werden.

Ⓓ — Wenn die Einstellung richtig ist, wird der Frequenzgang gleich der Kurve b in Bild 2 (Verzerrung ⩽5%) sein.

Ⓔ — A.L.C. ausschalten durch Kurzschluss von Elko 2771.

Ⓕ — Zuerst kontrollieren, ob R3751 (3752) kurzgeschlossen ist.
Wenn ja, diesen Kurzschluss vor Messen und Einstellen beheben.
Nachdem das Gerät richtig eingestellt worden ist, muss dieser Kurzschluss wieder hergestellt werden.

Ⓖ — Bei dieser Messung muss de Stummschaltung ("mute") durch Unterbrechen von R3792 ausgeschaltet werden. Nachdem die Messungen vorgenommen worden sind, muss R3792 wieder richtig plaziert werden.

Electrical measurements and adjustments recorder and record player

General conditions recorder

- Prior to any measurement or adjustment with the tape running, heads and tape guides should be degaussed and cleaned.
- The measurements and adjustments are related to the left-hand channel.
  The corresponding test points and adjusting elements for the right-hand channel are given in brackets.
- The voltages have been measured relative to earth.

Required test equipment and test cassettes

- AF generator
- AC mV meter
- Wow and flutter meter
- Multi meter
- Frequency counter
- Cassette service set 801CSS 4822 395 30078
- Universal test cassette SBC420Fe 4822 397 30071

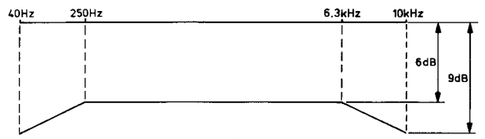


Fig. 1

23 742 A12/A

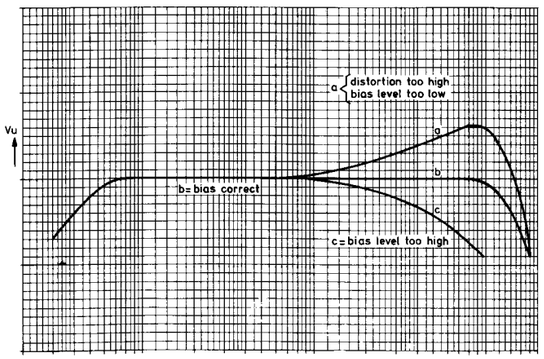
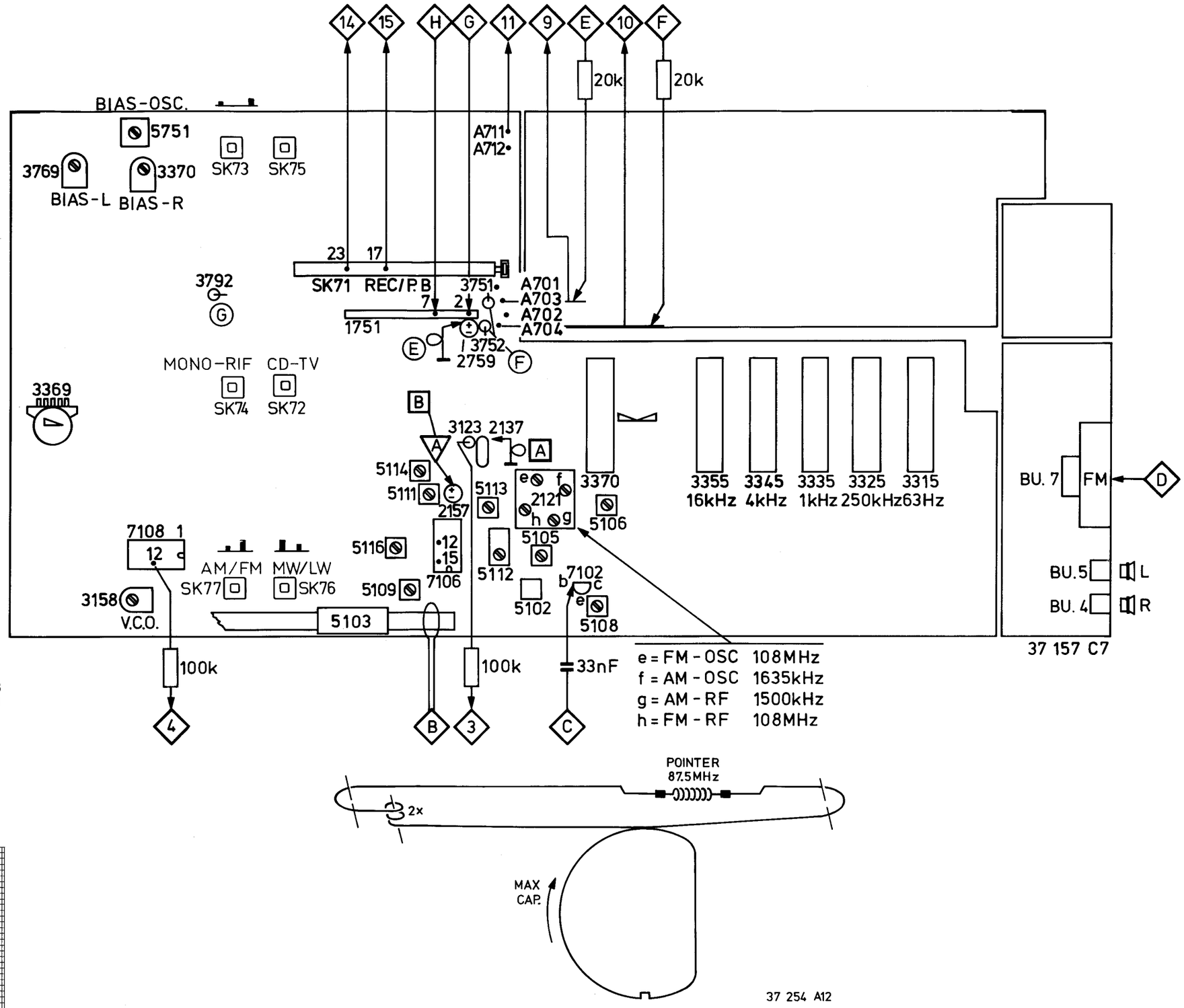


Fig. 2

29 476 A12



(I) Misure e regolazioni elettrische "Recorder"

(A) — La deviazione massima di velocità è ±2%.
Inoltre, può essere rilevato il wow e flutter.
— Questo valore non deve eccedere dello 0,35%.

(B) — Collegare lo strumento di servizio al connettore di uscita di una cassa acustica dell'apparecchio.
— Posizionare l'apparecchio in riproduzione e usare la cassetta test a 50 Hz.
— Regolare la velocità del motore (R), per la minima deviazione dello strumento.

(C) — Per necessità può essere usata una cassetta di alta qualità al ferro (normale).

(D) — Se la regolazione è corretta la curva di risposta in frequenza serà simile alla curva b in Fig. 2. (distorsione ≤5%).

(E) — Mettere il C.A. fuori funzionamento cortocircuitando il condensatore chimico 2771.

(F) — Controllare anzitutto se R3751 (3752) è corto-circuitata.
Nell'affirmativa, sopprimere questo corto-circuito prima di procedere alle misure e regolazioni.
Ristabilire il corto-circuito dal momento che l'apparecchio è regolato come si deve.

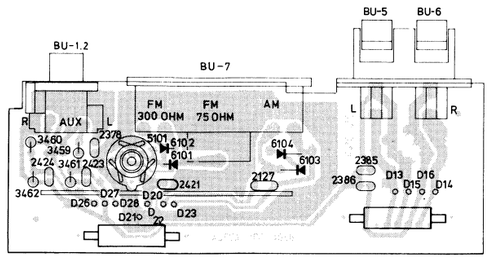
(G) — Per questa misura occorrerà anzitutto mettere interfuori funzione il muto mentre si interrompe R3792.
Dopo, ristabilire R3792 nella sua funzione.

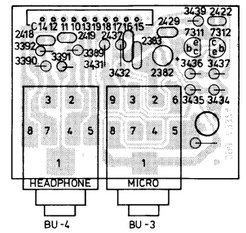
Recorder

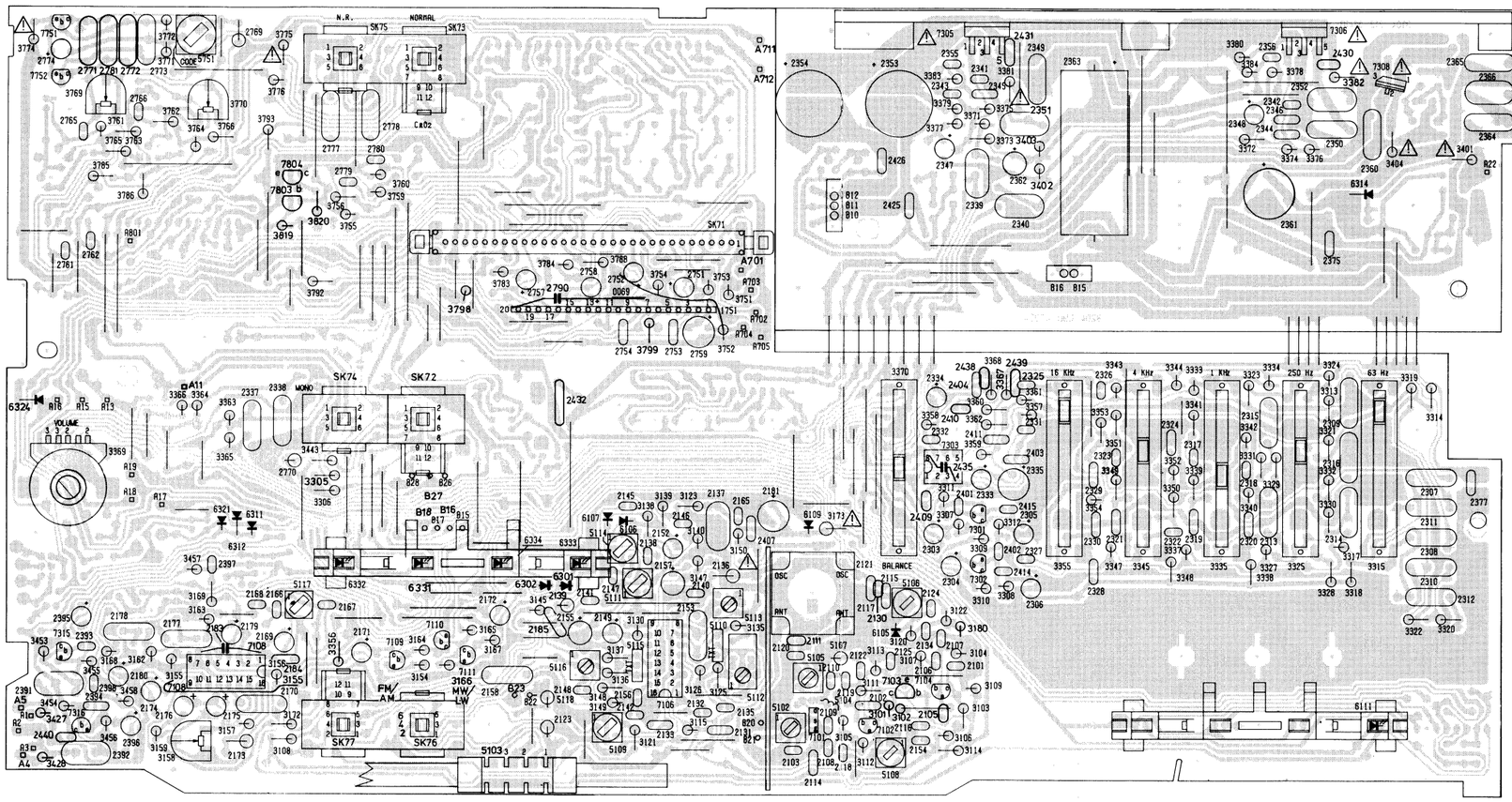
Adjustment	Cassette	Recorder in position SK..	Apply signal to	Measure on	Read on	Adjust with	Adjust to
Playback speed Method 1 or Method 2	3150 Hz part of SBC420Fe	PLAY	—	Loudspeaker output or ◇14◇ (◇15◇)	Wow and flutter meter	Trimpotmeter R at the back of the motor	(A)
	Test cassette set 801/CSS	PLAY	—	Loudspeaker output	indicator on test set	Trimpotmeter R at the back of the motor	(B)
Azimuth R/P head	8 kHz part of SBC420Fe	PLAY	—	◇14◇ (◇15◇)	AC mV meter or oscilloscope	Left screw on R/P head	Max. output
Static playback	—	PLAY (G)	◇E◇ ◇F◇ 170 mV-315 Hz via 20 kΩ	◇14◇ (◇15◇)	AC mV meter	—	⩾ 250 mV
Playback sensitivity	315 Hz-0 dB part of SBC420Fe	PLAY	—	◇14◇ (◇15◇)	AC mV meter	—	> 300 mV
BIAS oscillator frequency	Any cassette	RIF SK-13 OFF REC+PLAY	—	◇11◇	Frequency counter		55 kHz
Target value BIAS	SBC420Fe side-2 (C)	REC+PLAY	—	◇9◇ (◇10◇)	AC mV meter		5.5 mV
BIAS	SBC420Fe side-2 (C)	REC+PLAY	1 kHz ◇G◇ (◇H◇) (E)		AC mV meter	LF generator	12 mV
			63 Hz 250 Hz 6.3 Hz 10 kHz	Record a number of frequencies (same input voltage)			
	Rewind recording made	PLAY		◇14◇ (◇15◇)	AC mV meter		See graph Fig. 1 if necessary repeat adjustment (D)

Record player

Adjustment	Service Manual	Recorder player position SK			Read on	Adjust with	Adjust to
Speed	F7046	SK-H 33 1/3 rpm 45 rpm			Stroboscope	Trimpotmeter R3603 R3602	33 1/3 rpm 45 rpm







FM	AM	7101
d =	4.8 V	
s =	0 V	
g =	0 V	

7102	
e =	1.0 V 0V
b =	1.8 V 0V
c =	5.6 V 6V

7103	
e =	0V
b =	07V
c =	2.3V

7104	
e =	0.6 V 0V
b =	1.3 V 0V
c =	3.8 V 6V

FM	AM	7106
1 =	1.4 V	0.0 V
2 =	0.7 V	1.5 V
3 =	0.7 V	1.5 V
4 =	5.7 V	6.0 V
5 =	4.0 V	6.0 V
6 =	0.7 V	0.7 V
7 =	6.0V	6.0 V
8 =	6.0 V	6.0 V
9 =	5.5 V	6.0 V
10 =	5.5 V	6.0 V
11 =	1.4 V	1.4 V
12 =	0.0 V	0.0 V
13 =	0.7 V	0.7 V
14 =	5.3 V	6.0 V
15 =	0.0 V	0.1 V
16 =	0.0 V	0.0 V

FM	AM	7108
1 =	7.0 V	7.0 V
2 =	1.5 V	1.5 V
3 =	2.0 V	2.0 V
4 =	2.3 V	2.3 V
5 =	2.3 V	2.3 V
6 =	11.5 V	11.5 V
7 =	0.0 V	0.0 V
8 =	0.3 V	0.3 V
9 =	0.7 V	5.0 V
10 =	1.7 V	1.7 V
11 =	1.7 V	1.7 V
12 =	1.3 V	0.1 V
13 =	1.7 V	1.7 V
14 =	1.7 V	1.7 V
15 =	1.7 V	1.7 V
16 =	1.9 V	0.2 V

FM	AM	7109
e =	7.1 V	7.1 V
b =	6.3 V	6.3 V
c =	7.0 V	7.0 V

7110	
e =	0.0 V 0.0 V
b =	0.7 V 0.7 V
c =	0.0 V 0.0 V

7111	
e =	0.0 V 0.0 V
b =	0.4 V 0.4 V
c =	0.7 V 0.7 V

7301	
e =	0.7 V
b =	1.4 V
c =	11.0 V

7302	
e =	0.7 V
b =	1.4 V
c =	11.0 V

7305	
1 =	14.9 V
2 =	15.1 V
3 =	0V
4 =	15.1 V
5 =	30V

7303	
1 =	7.7 V
2 =	7.7 V
3 =	7.7 V
4 =	0.0 V
5 =	7.7 V
6 =	7.7 V
7 =	7.6 V
8 =	15.0 V

7305	
1 =	14.9V
2 =	15.1V
3 =	0V
4 =	15.1V
5 =	30V

7308	
1 =	30V
2 =	0.0 V
3 =	15 V

7311	
e =	0.2V
b =	0.8 V
c =	9.4V

7312	
e =	10V
b =	9.4V
c =	0.2V

7315	
e =	7.6 V
b =	7.2V
c =	15.0 V

7316	
e =	8.3V
b =	7.7V
c =	15.0V

7751	PLAY	REC.
e =	0.2V	14.2V
b =	0V	13.9V
c =	0V	8V

7752	PLAY	REC.
e =	0.2V	14.2V
b =	0V	13.9V
c =	0V	8V

1751			
1 =	1.4V	1.4V	
2 =	0.0V	0.0V	
3 =	0.0V	0.0V	
4 =	0.6V	0.6V	
5 =	0.0V	0.0V	
6 =	0.0V	0.0V	
7 =	0.0V	0.0V	
8 =	0.0V	0.0V	
9 =	0.6V	0.6V	
10 =	0.0V	0.0V	
REC — PLAY			
11 =	0.0V	0.0V	
12 =	0.0V	0.0V	
13 =	4.8V	4.8V	
14 =	0.0V	0.0V	
15 =	0.1V	0.7V	
16 =	0.0V	0.0V	
17 =	4.8V	4.8V	
18 =	0.0V	0.0V	
19 =	≃	≃	
20 =	14.5V	14.5V	
REC — PLAY			

37 214 E12

1751	E04	2107	F06	2114	F06	2119	F06	2124	F05	2132	E06	2137	E05	2142	E06	2149	D06	2156	E06
2101	F06	2108	F06	2115	F05	2120	E06	2125	F06	2133	E06	2138	E05	2145	E05	2152	E05	2157	E05
2102	F06	2109	F06	2116	F06	2121	F05	2127	C02	2134	F06	2139	D05	2146	E05	2153	E06	2158	D06
2103	E06	2110	F06	2117	F05	2122	F06	2130	F05	2135	E06	2140	E05	2147	E05	2154	F06	2165	E05
2106	F06	2111	F06	2118	F06	2123	D06	2131	E06	2136	E05	2141	D05	2148	D06	2155	D06	2166	C05
2167	C05	2172	D05	2177	B06	2183	B06	2305	G05	2310	I05	2315	H05	2321	G05	2326	G04	2331	G05
2168	C05	2173	C06	2178	B06	2184	C06	2306	G05	2311	I05	2317	G05	2322	G05	2327	G05	2332	F05
2169	C06	2174	B06	2179	C06	2185	D06	2307	I05	2312	I05	2318	H05	2323	G05	2328	G05	2333	F05
2170	C06	2175	C06	2180	B06	2303	F05	2308	I05	2313	H05	2319	G05	2324	G05	2329	G05	2334	F04
2171	C06	2176	B06	2181	E05	2304	F05	2309	H05	2314	H05	2320	H05	2325	G04	2330	G05	2335	G05
2337	C04	2342	H03	2347	F03	2352	H03	2360	H03	2365	I03	2382	I01	2393	B06	2398	B06	2407	E05
2338	C04	2343	F03	2348	H03	2353	F03	2361	H03	2366	I03	2383	H01	2394	B06	2401	F05	2410	F05
2339	F03	2344	H03	2349	G03	2354	E03	2362	G03	2375	H04	2385	D02	2395	B06	2402	G05	2411	F05
2340	G03	2345	F03	2350	H03	2355	F03	2363	G03	2377	I05	2386	C02	2396	B06	2403	G05	2414	G05
2341	F03	2346	H03	2351	G03	2356	H03	2364	I03	2378	B01	2391	B06	2397	B05	2404	F04	2415	G05
2418	H01	2424	B02	2431	G03	2440	B06	2754	E04	2762	B04	2771	B03	2778	C03	3101	F06	3106	F06
2419	H01	2425	F03	2432	D04	2490	F05	2757	D04	2765	B03	2772	B03	2779	C03	3102	F06	3107	F06
2421	C02	2426	F03	2435	F05	2751	E04	2758	D04	2766	B03	2773	B03	2780	C03	3103	F06	3108	C06
2422	I01	2429	I01	2437	H01	2752	E04	2759	E04	2769	C03	2774	B03	2781	B03	3104	F06	3109	F06
2423	B02	2430	H03	2438	F04	2753	E04	2761	B04	2770	C05	2777	C03	2790	D04	3105	F06	3111	F06
3112	F06	3121	E06	3130	E06	3139	E05	3149	D06	3157	C06	3164	D06	3169	B05	3306	C05	3311	F05
3113	F06	3122	F06	3135	E06	3140	E05	3150	E05	3158	B06	3165	D06	3172	C06	3307	F05	3312	G05
3114	F06	3123	E05	3136	D06	3145	D05	3154	D06	3159	B06	3166	D06	3173	F05	3308	G05	3313	H04
3115	E06	3125	E06	3137	D06	3147	E05	3155	C06	3162	B06	3167	D06	3180	F06	3309	F05	3314	I04
3120	F06	3126	E06	3138	E05	3148	D06	3156	C06	3163	B06	3168	B06	3305	C05	3310	F05	3315	H05
3316	H05	3321	H05	3327	H05	3332	H05	3338	H05	3343	G04	3349	G05	3354	G05	3360	F04	3365	C05
3317	H05	3322	I06	3328	H05	3333	G04	3339	G05	3344	G04	3350	G05	3355	G05	3361	G04	3366	B04
3318	H05	3323	H04	3329	H05	3334	H04	3340	H05	3345	G05	3351	G05	3357	G04	3362	F05	3367	G04
3319	I04	3324	H04	3330	H05	3335	H05	3341	G04	3347	G05	3352	G05	3358	F05	3363	C04	3368	F04
3320	I06	3325	H05	3331	H05	3337	G05	3342	H05	3348	G05	3353	G05	3359	F05	3364	B04	3369	B05
3370	F04	3375	F03	3380	H03	3389	H01	3402	G03	3431	H01	3437	I01	3455	B06	3460	B01	3753	E04
3371	F03	3376	H03	3381	G03	3390	H01	3403	G03	3432	H01	3439	I01	3456	B06	3461	B02	3754	E04
3372	H03	3377	F03	3382	H03	3391	H01	3404	H03	3434	I01	3443	C05	3457	B05	3462	B02	3755	C03
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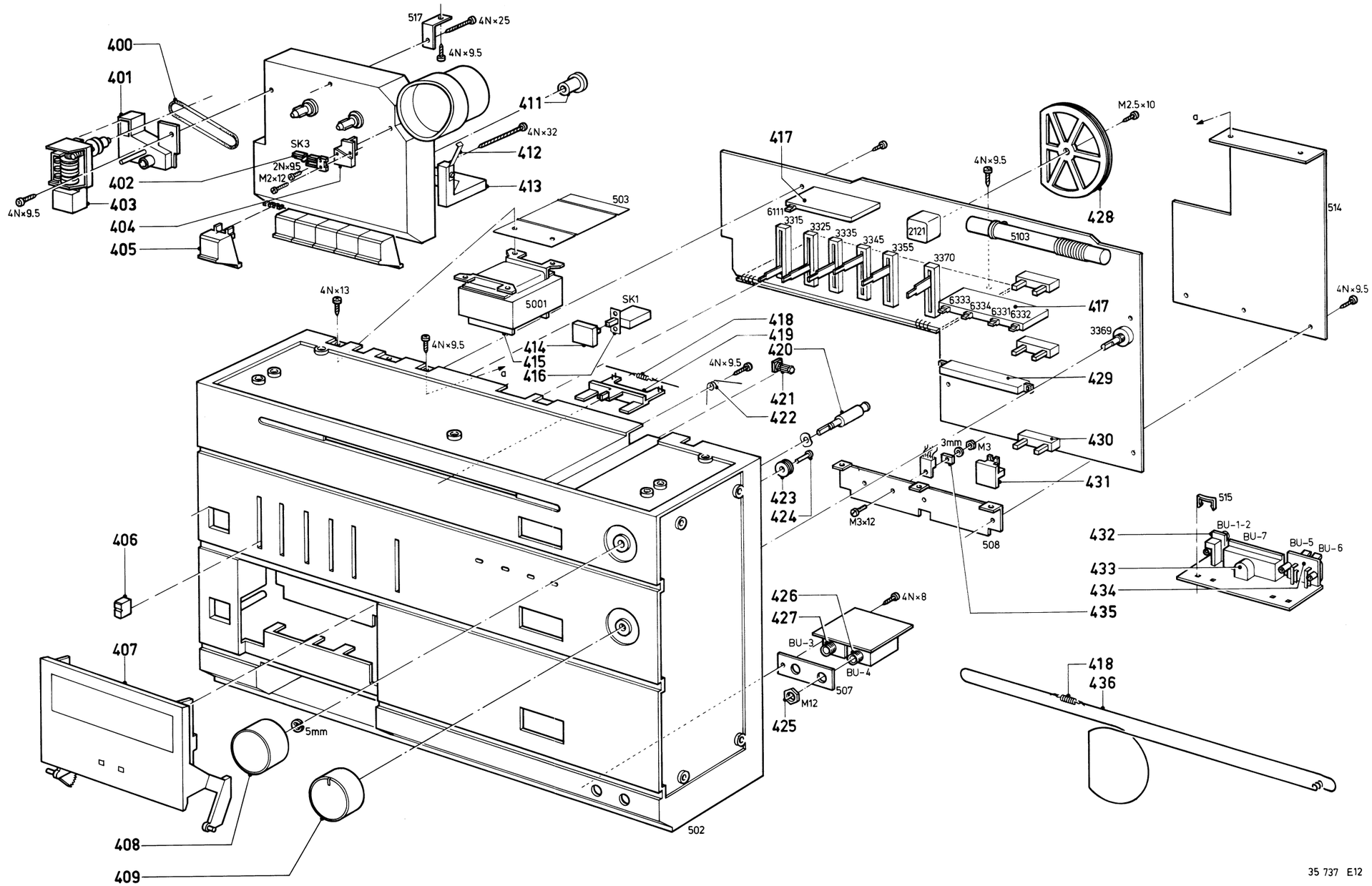

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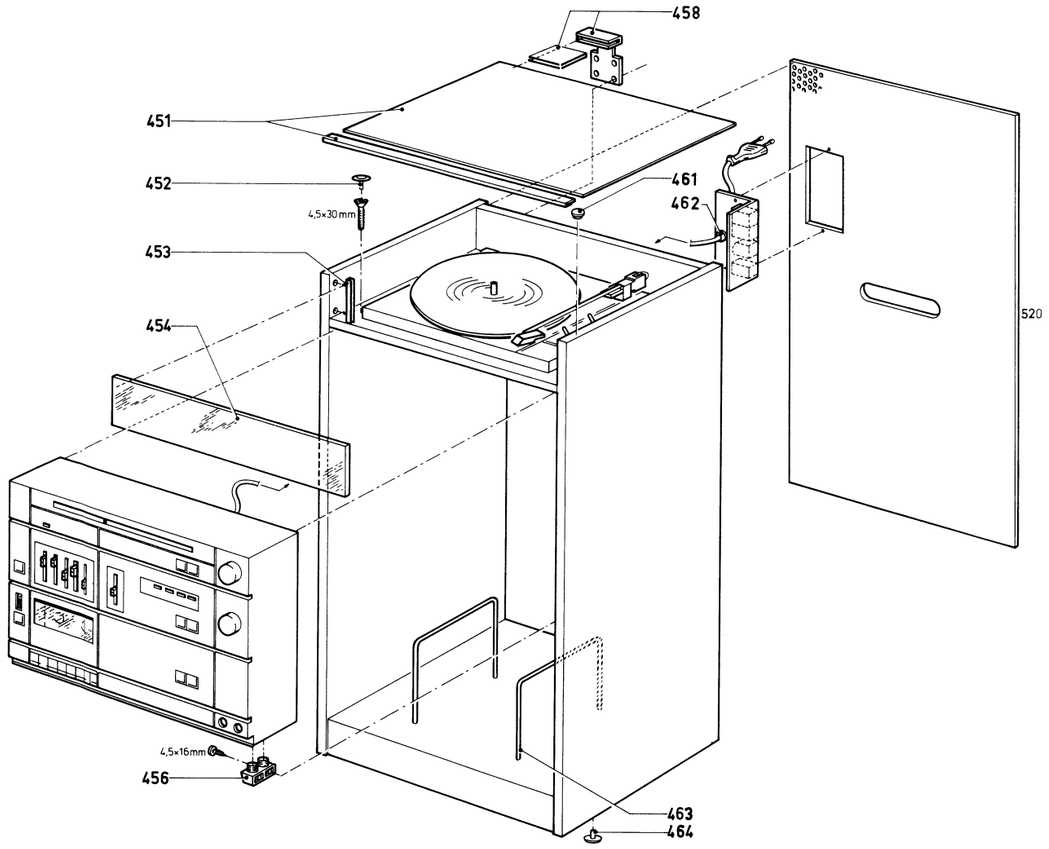

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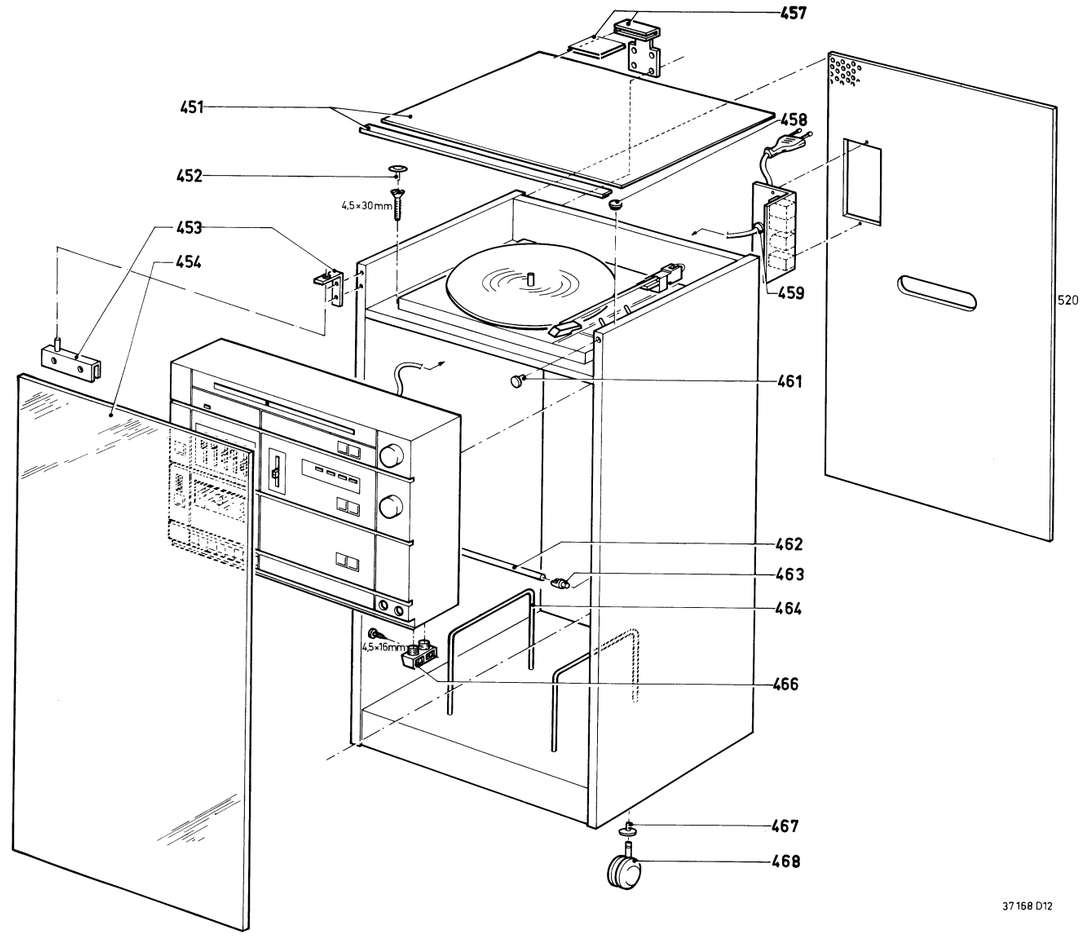

37 168 D12

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